at this time to my examining Mr. Wentz a little beyond your examination.

MR A. C. HATCH: No.

MR. RAY: A cross relative to those things last week.

MR. A. C. HATCH: Mr. Tanner suggest there is one other matter Mr. Wentz ought to testify to first.

Q Have youprepared a diagram showing the measurements, all of the measurements made by yourself and those testified to by Mr. Swendson and other witnesses of the flow in the flume of the power company?

Q Yes.

Q MR. KAY: I want to examine him as to that.

MR. A. C. HATCH: This is diagram Exhibit 193, we submit it.

MR KAY: I have seen it.

Q Now, explain that, Mr. Wentz

A Exhibit 193 is a graph of the Utah Power & Light Olmstead flume showing the discharge and gauge height of water in the flume at the Dorman's and Nunn's rating stations. This is platted upon millimeter paper. Near the center on the vertical line running--beginning at point fifty and extending to the top of the plat to 5.50 are the gauge heights in feet. Along the bottom of the plat, beginning at zero and extending to 330 plus, on the map from 10 is the discharge in second feet. On this scale a second foot is equal to five millimeters, or one millimeter is equal to two tenths of a second foot, and twenty second feet is equal to one decimeter. The vertical scale one millimeter is equal to one one-hundredths of a foot. The yellow curve on the map marked on the back of the curve and also marked with the capital letter "A" is, as marked, Cutter curve coefficient .015, with the width of eight feet and slope of one foot in one thousand.

Curve B. is Cutter's curve for a coefficient of .0135, with a width of eight feet and slope of one in one thousand and is so marked on the back of the curve.

Curve C is Cutter's curve for the coefficient of .0132, with a width of eight feet and slope of one in one thousand, and is so marked on the belly of the curve.

Curve D is Cutter's curve with a coefficient of .012, with width eight feet, slope of one in one thousand, and is marked on the badk of the curve.

Curve E. is Cutter's curve, coefficint .011, width eight feet, slope one in one thousand and is marked on the back of the curve.

Beginning with gauge height .50, and extending to 5.50 at every half foof of gauge height the points on each of these curves from A to E respectively have been calculated and carried to three decimal places. Each of these points as calculated on each of the horizontal lines is marked with a small circle representing the calculated point. The small black circles filled in and with the different dates marked opposite each of them---

MR. RAY: Mr. Wentz, with the court's indulgence, we will admit as to those markings, the legend correctly shows what they indicate and I have examined the map and think it is perfectly clear. Different kinds of dots indicate different measurements and the legend shows it on the map. That is what I suppose he is going to explain and we will admitthe legend correctly shows it.

MR. A. C. HATCH: The only purpose then would be, if the court fully understands the matter, without going into it in detail.

THE COURT: I don't know whether I do or not.

MR. RAY: I think it is so clear.

MR. A. C. HATCH: I will say I did not until it was gone over with me by the engineers, that is the purpose of detailing.

MR. RAY: Detailing wont take so long as the explanation.

Q Proceed.

A Black circles filled in on the map are the discharge measurements correctly platted on their gauge height made by myself at the Donnan station.

The red, small red circle filled in is the measurement of Mr. Thomas.

The blue circle is a measurement of Mr. Pharis.

The yellow circles filled in are the discharge and gauge heights given in the small tabulation Exhibit No. 148.

The small red circle with the black circle around it is the measurement of the discharge made at Nunn's station.

Small black circle with the red circle around it are the measurements at Nunn's station as given by exhibit 147.

I believe that is all. There is one other.

The line in orange which I will mark on this sketch as X-Z is a line in the same position as the line drawn in pencil on Exhibit 146.

Q Now, what is the maximum flow shown at Nunn's station, that is the highest that you have there?

A Two hundred and fifty-eight second feet.

Q And what is the inflow between the intake flume and the Nunn station inflow into the canal into the flume?

A The flume of Lost Creek runs a maximum, as I have found about 6.41 second feet. Bridal Veil falls into the flume runs from 3.8 second feet to 4.11. Guardquarters Springs will aggregate, as I remember, about one half second foot.

Q That will be then in the flume probably above the Nunn station about 248 feet, or above the inflow?

A Yes.

CROSS EXAMINATION by Mr. Ray.

Q Now, Mr. Wentz, the exhibit 193, as I understand your testimony, contains all of the data contained on exhibit 185 and 186 as introduced;in addition thereto the data of the measurements introduced by the plaintiff and embodied in exhibit 148 and 147?

A And 146, yes.

Q And in additionto that, your measurements at Nunn's station during the year 1914?

A Yes.

Q So that this map now contains all of the measurements introduced in evidence in this case, either at Nunn's or Donnan's, so far as you know?

A Yes.

Q And they are projected with Cutter's curves upon millimeter paper?

A Yes.

Q Now, you report here a measurement of Mr. Pharis?

A Pharis.

Q My memory is that no such measurement is in evidence here. If I am wrong on that I want to be corrected, and ask Mr. Wentz where he secured his data for the Pharis measurement. Mr. Thomas testified Mr. Pharis made a measurement but it was objected to. I think there was no Pharis measurement in as I understand it. I want to ask Mr. Wentz where he secured his data for the Pharis measurement?

A From the records of Mr. Thomas.

Q From the records of Mr. Thomas?

A Yes.

MR. A. C. HATCH: Those records are part of the--

MR. RAY: If it is in, I admit my unfamiliarity with this testimony. My memory is it is not in.

Q Now, in the determinations of the coefficient of roughness,

one of the important elements is the grade, is it not, Mr. Wentz?

A Yes, that is one factor.

Q In your determinations you have taken as the grade factor one foot for one thousand, have you not?

A Yes, sir.

Q You know as a matter of fact that during the years 1914 '15 and '16 there has not been a uniform grade along this flume of one foot per one thousand, do you not?

A Well, I have not run the levels over that flume, but whether it is uniform or not that doesn't make any difference if the fall is there.

Q I am asking you whether it is uniform not whether it makes any difference. I want to know whether it is uniform.

A I could not say about the grade there, the only place I have measured the flume is the change in elevation of the sides of the flume. I have not run any levels over it, don't know anything about the irregularities in the grade.

Q There have been referred to in the testimony here an a racing section?

A Yes.

Q Where is that racing section?

A That is near the gate-house.

Q How far down the flume does it extend?

A The gate house is at station 10, the end of the racing section is 10 plus 85, the Donnan station is at 18 plus 48. Those stations are each a hundred feet apart.

Q So, how long is the racing section?

A The racing section is probably forty or fifty feet.

Q How far down does the racing section affect the flow of the water so as to make the surface more or less turbulent?

A Well, not very far below where the racing section goes into the standard flume. The fillaments there don't meet parallel and we have a back wave and disturbance there, but

the turbulence and waves on the flume at the Donnan station and for some distance above are not any greater than they are further down the flume, even as far as Bridal Veil falls, the waves are just the same.

MR. A. C. HATCH: Understand this is your examination of him, beyond the direct examination?

MR. RAY: Oh, no, indeed not.

MR. A. C. HATCH: I take it it is outside.

MR. RAY: He has not been cross examined upon his testimony at the last session. I take it we have a right to cross examine him.

MR. A. C. HATCH: As to that, I was taking into consideration only his testimony here this evening. If he was not cross examined heretofore--

MR. RAY: I think it is cross examination of this Exhibit 2, Your Honor.

THE COURT: I am inclined to think so. I think it is cross examination of this evidence, with relation to this plat, as to whether he took into consideration the rapidity of the flow in determining the coefficient of roughness that he was applying to these curves.

MR. RAY: That is the purpose of it.

THE COURT: I took it that was the purpose.

Q I observe from the Exhibit 193, Mr. Wentz, that the measurements made at the Nunn measuring station during the years 1914, '15 and '16, platted on this exhibit group themselves very closely around the D curve which is the coefficient of 12.

A .012.

Q Point 012?

A Yes.

Q Is it not a fact that at the Nunn rating station the flow of the water has assumed a more normal condition than obtained at Donnan's rating station?

A Yes, sir, that is true.

Q The actual roughness of the flume would be about the same at the two places, would it not? I mean the mechanical roughness?

A Yes.

Q And the difference in these measurements would be accounted for, would it not, Mr. Wentz, by the fact that at the Nunn rating station, the flow of the water in the flume had been free from all the effects of the racing section?

A Yes.

Q Have you considered the mean coefficient of roughness, taking into consideration all of the measurements made and reported at the Nunn rating station?

A No, I have not, but I could get that very quickly off the plat.

Q It would approach very closely to coefficient .012, would it not?

A .012, plus.

Q What is the best coefficient shown by any of the measurements upon this plat?

A .0114.

Q Is it not a further fact, Mr. Wentz, that the coefficient of roughness of a new flume in good alignment is less than the same flume though kept in repair after a constant use of ten or fifteen years?

A Yes, in good alignment, it is in better shape.

Q So that taking the Nunn station as a normal station and assuming its coefficient of roughness to be about 12, what would you say the coefficient of roughness of this flume was at the time of its construction, assuming it to be of the same dimension and upon an even grade of one foot for one thousand?

A At the Nunn station I would say it would be at .012.

Q That is substantially what it is now?

A Yes.

Q Would you not say that when it was new it would have a less

coefficient of roughness then than it has now?

A No, the condition of the curves near Nunn's station are a controlling factor on that flume. If it develops any extra speed those curves knock it out. The curves are a limiting factor on that flume and the difference in the coefficient at the time of its new construction and the time now I don't think would be very much difference.

Q There is one measurement here now made after the flume was twelve or fourteen years old showing a coefficient of .0114, is there not?

A Yes.

Q Might the coefficient of roughness at the time of the building of the flume have been as low for the mean as that measurement?

A No, I think on the curves there, as I have stated, are a material factor in there. This discharge measurement of .0114 is rather isolated. The other points at Nunn's station range near the point 012, and above the point 012. I think 012 would be nearer the measurement taking everything under consideration at this station.

Q As a matter of fact, there are three measurements below and three on the projection of a coefficient of .012, are there not?

A Yes, and nine above.

Q And those all taken at a period when the flume was at least twelve or fourteen years old?

A Yes.

Q Now, again, after going through that, the plat to which I have called your attention embodies all of the facts contained on Exhibits 185 and 186, and the data furnished in Exhibits 147 and 148?

A Yes.

REDIRECT EXAMINATION by Mr. A. C. Hatch.

Q As an engineer, Mr. Wentz, which would you say was the proper place to determine the capacity of that flume, to take the coefficient, at Donnan's station or the coefficient of rugosity at the Nunn station?

A At Donnan's station. The capacity of that flume, of course, is limited by its point of minimum capacity, at wherever on that flume the coefficient is the highest, then that is the point of maximum capacity, and is a limiting factor in the discharge of that flume. If there is any place in that flume that the coefficient would reach say 16, that is the coefficient for the limiting capacity of the flume.

RECROSS EXAMINATION by Mr. Ray.

Q Mr. Wentz you stated at the outset of my examination that the grade of the flume was one of the factors necessary to determine the coefficient of roughness?

A Yes.

Q You now state---

A Not the coefficient of roughness, the discharge.

Q Discharge?

A Yes, coefficient of roughness is not determined on the grade.

Q But you used the grade in getting this one, didn't you?

A Used the grade in getting the discharge, the velocity and the coefficient of roughness is shown here by the curves.

Q You say the point of minimum capacity, of course, is the point also of maximum carrying capacity, isn't it?

A Yes.

Q As far as the canal is concerned. Now, there is a difference in grade at Donnan's, is there not, affected by the racing section, or that is it is preceded by a section of the flume which is of greater grade than the average?

A Yes, there is a short stretch of flume, the racing section

that is higher than the average flume grade.

Q And you stated to me that the water was not freed from the effects of that until below the Donnan station, did you not?

A No, I didn't state that.

Q I understood you to so state, that it assumed more normal flow at the Nunn station than at the Donnan's station?

A No, I said at the Nunn station there was no effect of the racing section, but the wave heights and disturbance at the Donnan station were no more pronounced than they are at Bridal Veil falls or Nunn station.

Q How is the relative speed as affected by the racing section?

A You mean the relative speed through the racing section?

Q No, at Donnan's and at Nunn's?

A Well, the speed at Donnan's is lower than the velocity at Nunn's.

Q Why?

A Well, on account of the--possibly on account of the disturbances created by the racing section.

Q As a matter of fact, water piles up there, doesn't it, because of the fast water flowing in from the racing section? Piles up there a little, don't it?

A Right at the end of the racing section, yes, a heavy back wave.

Q And does not get unpiled until it gets below Donnan's where it takes on additional speed, does it, normal speed?

A That word, "unpiled" in there.

Q That was your word, wasn't it?

A No.

Q I think I originally used it; you agreed with me first, so that I tried it again. You know what it means, I think.

A The height of free board just below the racing section and the height of free board near the Donnan station are approximately the same. The speed just a short ways below

the racing section is practically the same as it is at the Donnan station. Of course, there is one local disturbance at Donnan's station, I have noticed in two or three instances, but it has only been in those two or three instances. There is at the time, I think, of the measurement in May, just immediately after I got through making the measurement, there seemed to be an extremely heavy wave go through the station. I have noticed that other times. Now, that is, of course, caused at the racing section, but outside of that the free board immediately below the racing section and the free board down at the Donnan station are practically the same.

Q Which would indicate that the speed of the water was substantially the same from Donnan's station up to where you observed tthe free board, would it not?

A Up to just below the racing section.

Q And through all that section the speed of the water is less than it is down at the Nunn's station, you testified, did you not?

A Yes.

Q And that is because of the coming in of the water from the racing station, is it not?

A Yes, the water at the Donnan station is not as high as the velocity at Nunn's station, and I attribute it, of course, to the disturbance at the lower end of the racing section.

REDIRECT EXAMINATION by Mr. A. C. Hatch.

Q. What is the difference, if any, in the alignment of the flume at Donnan's station and at Nunn's station?

A The Donnan's station is rather close to the curve above. it is on a long tangent of approximately a thousand or twelve hundred feet, and it is located approximately one hundred and thirty feet belowthe center of the curve above. The Nunn station is a better station and is located

on a tangent, a longer tangent,--not a longer tangent, but a longer straight piece of flume above the station to the curve.

Q Wouldn't the better alignment at Nunn's station tend to increase the velocity of the water so it would be greater than at the Donnan station?

A Yes, any betterment of the alignment, of course, increases the discharge.

Q Then, wouldn't the fact of the curve near the Nunn station, near the Donnan station be the cause of the difference in the flow?

MR. RAY: I object to that as leading.

THE COURT: Objection is overruled.

A Yes, that is one cause of the---

Q I think that is all.

9:00 P. M., Recess to 10:00 A. M., January 25. 1917.

T. F. WENTZ - - - - - - - -

REDIRECT EXAMINATION By Mr. A. C. Hatch continued.

Q Did you prepare the tabulation that we asked for yesterday?

A No, I haven't that complete, I can prepare for it by the afternoon session.

Q That will be all then.

MR. A. C. HATCH: We have a witness from Salt Lake City, the watermaster, who promised to be here at the opening of the court these morning to testify.

THE COURT: That is the last witness you have?

MR. A. C. HATCH: Yes.

THE COURT: You can put that evidence in out of order.

MR. A. C. HATCH: If the court please, there is that matter last evening as to the use of water as between Wasatch county users above Midway dam and the users of water below the Midway dam that is still undetermined and unsettled. There seems to be some misunderstanding between counsel in the case as to what the stipulation covers.

MR. THOMAS: Judge Hatch, before you enter that this morning could we clear the docket of eveyything else.

MR. A. C. HATCH: Not before I make my statement; pardon me just a moment, but we don't wish to close our rebuttal or close our case until that is determined definitely in some way, and in saying that we have just one more witness, I don't want to be understood --

THE COURT: I understand that.

MR. THOMAS May it please the court, Mr. Coleman's notes as to what had been introduced did not agree with the court reporter's notes, and to prevent any disagreement in the record I want to make a few more offers. Mr. Davis's record shows that

the minutes of the meeting of Provo Council held on the first day of August, '97, was admitted, but the report of the City Council, January 1, 1884 was not admitted. Then was presented the statutes of the second of February, 1851, and the third of March, or the sixth of March, 1852, and 22nd of September, 1852. Mr. Davis has these noted as not offered. Those were the old statutes.--

THE COURT: City ordinances.

MR. THOMAS No, one was called an ordinance of the State of Deseret, that was pead and presented, and then the laws of the Territory of Utah. Mr. Davis has those marked not offered Those were the statutes. Our position was that the court would take judicial notice of the laws that have been passed in the State and Territory. Then there were certain sections which were offered in a printed volume that was presented, but the printed volume cannot be found by the clerk, printed volume of the ordinances and granting certain charters. Those were all xx printed and we all remember having the book and having presented it, but no trace of it can be found.

MR. THURMAN: Were they read into the record, the sections you refer to?

MR. THOMAS: The sections were all read.

MR. THURMAN: What is it now?

MR. THOMAS: We want leave to represent them, and in lieu of that printed volume which has been lost evidently in the shuffle to have typewritten copies of these various ordinances presented. Then I want to present two or three other ordinances which were not then presented, which are along identically the same lines.

MR. THURMAN: That is another question, but those that you have read into the record, why present them again, what is the purpose of that?

MR. THOMAS: Mr. Davis' record shows that certain

sections of Provo City under date of the first of February, 1877, that was the date of the passage of the revised ordinances, compiled ordinances of Provo City was identified and not offered. Now, the notes we have--

THE COURT: Have they been read into the record?

MR. THOMAS: According to Mr. Davis' record they have not, and I want to present it so that they might be in the record.

MR. A. C. HATCH: Pardon me until I offer a few exhibits. We offer the Exhibit 193 at this time in evidence.

THE COURT: It may be received.

OMISSION.

Stipulation as to Pioneer Ditch Company, Jackson R. Allen, et al.

MR. THOMAS: May it please the court, I wish to offer from the City Ordinances of Provo City these ordinances which I will have copied, certified copies made thereof and filed in lieu of leaving this volume of the city.

I wish to offer an ordinance granting to George T. Peay the right to take water from Dry Creek for machinery and other purposes, the said ordinance was passed and approved February 9, 1867.

MR. RAY: Your Honor Please, I object to it as irrelevant and immaterial upon the ground that it does not appear Provo City had any authority to grant the right to the use of this water, or ever had a right to appropriate waters for the purpose of alienation.

THE COURT: Objection is overruled, I will not pass on the effect of it this time, it may be made part of the record.

MR. THOMAS: Also ordinance granting to James C. Snider, Martin L. Snider, P. R. Johnson, James E. Daniels the right to the use of watefs of Dry Creek for the purpose of driving machinery, etc., approved April 15, 1867.

MR. RAY: May we have the same objection and exception?

THE COURT: Yes.

MR. A. C. HATCH: The further objection to it except it be shown the water was appropriated by those parties at the time and continually used since, that evidence is immaterial, that the grant even though it were made would not be perpetual under any law we have ever had and if the use has been made proving the ordinance is surplusage.

MR. THOMAS: The evidence on that is all before the court, and the court has indicated now he would not pass upon the effect.

THE COURT: The court will consider it for whatever it may be competent for; it may be evidence of the abandonment of water right theretofore acquired.

MR. THOMAS: Also ordinance authorizing and defining

the duties of the City Watermaster, and regulating irrigation. This ordinance was approved April 25, 1872.

Also an ordinance granting to Provo Manufacturing Company the right of way for water. This ordinance was passed and approved April 4, 1874.

Also an ordinance granting to Provo Manufacturing Company the right of way for water. This ordinance was approved April 4, 1874.

An ordinance granting to Myron Tanner the right of way and use of water for machine purposes passed and approved March 11, 1876.

An ordinance granting to George T. Peay the right of way and use of water for machine purposes passed and approved March 11, 1876.

Also an ordinance granting to George Beebe the right of way and use of waters for machine purposes passed and approved March 15, 1876.

Also an ordinance amending an ordinance entitled "An Ordinance Creating the office and Defining the Duties of Such Watermaster and Regulating Irrigation" passed February 2, 1875. This ordinance was passed and approved March 22, 1876.

Also Chapter 2, Sections 261 to 264, both inclusive, of the Revised Ordinances of Provo City, passed February 1, 1877.

Also Chapter 3, Sections 265 to 268, both inclusive, of the same ordinances.

Chapters 4 and 5, Sections 269 to 276, both inclusive, of the same ordinance.

Also an ordinance granting to Hans Poulson a certain right for power purposes, Sections 1, 2, 3 and 4 thereof, which includes the entire ordinance passed and approved February 24, 1879.

Also an ordinance granting a right of way and water privileges to Provo Lumber Manufacturing & Building Company, passed and approved April 21, 1879.

Also an ordinance granting to August Sward a certain water right, passed June 19, 1882.

Also an ordinance providing for furnishing the city with water for irrigation and other purposes and to regulate and control the same, passed and approved February 19, 1886.

Also a resolution Granting a franchise to Warren N. Dussenberry, passed April 1, 1889.

Also a certain water contract between Provo City and the Territorial Insane Asylum of Utah Territory, entered into the fifteenth day of February, 1892.

MR. A. L. BOOTH: May I ask here, wasn't that contract to last only twenty years?

MR. THOMAS: I am offering it.

MR. A. L. BOOTH: I am asking you if that is what it is.

MR. THOMAS: I think it is, but the contract will show for itself when presented.

Also an ordinance providing furnishing the city with water for irrigation and other purposes, and to regulate and control the same, passed and approved on the seventeenth day of March, 1902.

Also an ordinance granting to the Knight Woolen Mills, a corporation, its successors and assigns, the right to the use of water of the Mill race for power purposes, and right of way for conveying said water, and the right to reconstruct and maintain on Second West Street a dam containing walls and all other necessary work and appliances for the utilization of said water for such purpose, passed the 7th day of July, 1913.

These are all offered on behalf of Provo City.

THE COURT: They may be received subject to the same objection and exception taken to the first one.

MR. RAY: And to Judge Hatch's.

THE COURT: All the objections that were made to the

first offer may apply to all of these

MR. A. C. HATCH: The second offer is the one I raised the additional objection to.

THE COURT: Whichever one it was.

OMISSION.

Tabulation of water users in Summit County.

CHARLES F. BARRETT, called by the plaintiff, being first duly sworn, testifies as follows:

DIRECT EXAMINATION By Mr. A. C. Hatch.

Q What is your full name?

A Charles F. Barrett.

Q Where do you reside?

A In Salt Lake City.

Q What is your occupation?

A At present superintendent of water works for Salt Lake City.

Q Have you knowledge of the use of water of Salt Lake City for supplying its inhabitants?

A I have, yes sir.

Q And for all city purposes?

A Yes sir.

Q What is the amount of water per capita used by Salt Lake City through its water system, pipe system?

MR. THOMAS: Just a moment, we object to this testimony as not proper rebuttal, the plaintiff made its showing as tothe amount of water to be used by municipalities through its witness, Mr. T. F. Wentz, andmade its complete showing.

THE COURT: Objection is overruled, I think this is proper rebuttal of evidence that you introduced as to the necessities of the city.

MR. THOMAS: Exception.

Q You may answer, Mr. Barrett.

A For the year 1916, for all purposes 208 gallons per capita, basing the population on the figure of 115,615 people.

Q That would be to take 208 gallons per day?

A Yes sir, per capita

Q What was the use for the years prior to 1916?

A For the year 1915, 197.7 gallons for the year.

Q 1914?

A For the year 1914, 186.2 gallons.

Q Have you the figures for 1913?

A My recollection was 185 gallons for 1913.

Q To what uses is the water applied under that system for the years that you have given us? and does it include, does the amount you have given include all the water that is used through the city, whether city water pipe system for all purposes?

A Yes sir.

Q Now, what is included in the use to which the water is applied?

A We divide it into domestic, public and commercial purposes.

Q To what does domestic apply?

A To the consumption by homes and their surroundings.

Q Does the surrounding of the homes, does that include sprinkling of lawns. A. Yes sir.

Q The commercial use, what is that?

A Commercial use means such consumption as railroads, manufacturing plants, stores, business blocks and so forth.

Q Regardless of the purpose for which it is used by the different commercial institutions?

A Yes sir.

Q And the public use, what does that cover?

A That includes street sprinkling, gutter flushing, sewer flushing, parks and cemeteries, sprinkling and so forth.

Q You have a system of parked streets in Salt Lake City?

A Yes sir.

Q Does that include the sprinkling of those parks within the streets as well?

A That was not included in the public consumption except where the parking is in the center of the street. It is included in the domestic.

Q But it is included in the water taken from the pipes of the city?

A Yes sir.

Q For how long have you been engaged in the business or occupation in which you are now in?

A In the water business I have been something over twenty years.

Q Are you a civil engineer? A. No sir.

Q Have you made a study of the uses of water by cities?

A During my connection --

Q Necessities of cities and the inhabitants of cities for the use of water?

A To some extent, yes sir.

Q Have you a judgment as to the necessity of a smaller city and its inhabitants?

A I didn't catch the forepart of the question.

Q Have you a judgment as to the necessities of a smaller city than Salt Lake City, say one of ten thousand inhabitants?

A Yes, I have a judgment of what is necessary.

Q What would you say would be the necessary quantity for a city of say ten thousand inhabitants, where the uses cover the same uses as in Salt Lake City, and where the conditions are the same, or very similar except as to number of inhabitants and number of commercial uses?

MR. THOMAS: I object, if the court please, on the ground that the witness has not shown sufficient knowledge or familiarity with smaller cities to give an opinion.

THE COURT: Objection is overruled.

MR. THOMAS: Exception.

A The consumption of any city depends entirely on what the extent of its commercial use and public use is. With a city of ten thousand using the same per capita for commercial and public purposes as Salt Lake City, the consumption should run somewhere between 120 and 150 gallons per capita.

Q What would be the difference as to quantities, if you can tell us, for the several purposes in the smaller cities, the domestic, commercial and the public uses.

A I find that where there is a fair proportion of business consumption an allowance of as much as 50 gallons per capita can be made for that purpose. Salt Lake City for the year 1916 actually

used, we know by actual measurement they used 49 gallons per capita for business purposes, or commercial purposes. The public consumption depends of course on the extent of pavements, sewer systems and amount of sprinkling which is done on streets. Salt Lake City's per capita ran last year estimated 31 gallons per capita for those purposes.

Q Of course, all these reference all apply to per capita per day?

A Yes sir.

Q With the smaller cities what would you say would be the necessity for the domestic use, including the sprinkling of lawns?

A Where the water is properly controlled it should not run over 70 gallons. I mean by properly controlled, if it is measured to the consumer.

Q Have you had experience, or made a study of the necessities of cities per capita other than Salt Lake City?

A I cannot say that I have actually studied their necessities, but I have studied the question generally by reason of my association with other water works men.

Q And your discussion of the subject with them?

A Yes sir.

Q And I will ask you whether or not you have had reports made up by other waterworks men of other cities?

A I have, yes sir.

Q And gone over them?

A Yes sir.

Q About how many cities?

A I have reports gotten out by a committee of the American Waterworks Association for the year 1914, covering 144 cities.

Q All within the United States?

A No, not all within the United States, I think there are several in foreign countries, including Yokohama in Japan.

Q Does it cover the western cities, western states and within the

arid region?

A Yes sir, some of them.

Q About how many of those cities?

A All the principal cities.

Q Now what, if you know without reference, is the average for all the cities mentioned in those reports per capita per day for all purposes?

A Average of those 144 cities per capita per day is 120 gallons.

Q Can you say what is the average per capita per day for all purposes in the cities within the arid region of the United States?

A I can by referring to the report.

Q I wish you would do so.

MR. THOMAS: Before you begin reading from the book, what is the book from which you are about to read?

A This is the annual report of the -- or the journal of the American Waterworks Association for the year 1915.

MR. THOMAS: Under what auspices or authority was it published?

A Under the auspices and authority of the American Water-works Association.

MR. THOMAS If the court please, I object to the introduction of any statement from the volume, and the whole of the testimony, as being incompetent and immaterial and not within the issues of this case; does not purport to show anything that pertains to conditions similar to those existing in the defendant city, Provo City.

THE COURT: I hardly know what your objection goes to. The witness is asked if, from his information he could give the information of water consumption required per capita per day of cities in the six arid region. As I understand it that is the question.

MR. A. C. HATCH: That is the question.

THE COURT: Now, you are objecting to the introduction

of some book.

MR. THOMAS: Mr. Barrett, were you about to read from this volume which you have described?

A I was about to read from the list of the 144 cities.

THE COURT: Objection may be sustained to the introduction of this book or any part of it, I don't think it is competent, but if from Mr. Barrett's reading and information he can give an answer to this question, he may give it.

Q Can you, Mr. Barrett, give it without reading from the book?

A My memory is not godd enough to give the pr capita consumption of the individual cities.

Q Well, can you give approximately the average of the cities within the arid region?

A I can remember a few of them, I think, for instance, Denver, Cheyenne.

Q Give us Denver?

A Denver per capita consumption for the year 1915, I understood to be 234 gallons.

Q Cheyenne?

A Cheyenne is 216.

Q Have you any others in this intermountain region?

A Miles, Montana is given.

Q You have the data as to that?

A I have it within this list.

Q Do you haveit within your memory?

A No, I don't remember

Q Have you any of the Utah cities other than Salt Lake?

A No, I think there are none of the Utah cities that actually measure the water outside of Salt Lake City.

Q Then there is no data to be obtained from any of the cities in Utah outside of Salt Lake, that is, they keep no record of their daily use so far as you know?

A My understanding very few of them, if any at all.

Q Now, what have you to say as to whether the quantity per capita

used by Salt Lake City is a reasonably sufficient supply for 1916.

A My opinion as a superintendent of water-works is it is too much.

Q It is too much? A. Yes sir.

Q That there is a waste of water then by the users?

A Yes sir.

CROSS EXAMINATION By Mr. Thomas.

Q How large a city is Cheyenne, Mr. Barrett.

A I don't remember the population.

Q Are you familiar at all with the conditions existing in Cheyenne?

A Very slightly.

Q You have made no personal inspection of the system of the character and method of use in Cheyenne, have you ?

A No sir.

Q So you have no opinion to offer as to whether or not that is an excessive use.

A So far am any opinion based on actual information is concerned I have not.

Q You have made, or have you made any personal investigation of conditions as to soil and use of water here in Provo?

A Well, I have not made any exact investigation with the idea of investigating it in mind. I have noticed conditions at times?

Q When?

A During the last twenty years at different times.

Q Just a passer through?

A Just a passer through. I think I visited the superintendent of water-works and city engineer here one or two occasions.

Q When?

A Two or three years ago.

Q What was theoccasion and purpose of those visits?

A One occasionwas reason of the fact Iwas a witness in another case here, and incidently visited the superintendent and city

engineer.

Q Was the visit of a social character?

A To a certain extent.

Q Chiefly, wasn't it?

A Well, with the idea of getting acquainted as much as anything else, yes.

Q Now with a view, however, of making any analytical investigations concerning the system,

A No, only as we discussed it in a general way.

Q Your observation, I take it, was limited to whether or not you had enough water , or some such question, wasn't it?

A No, my recollection was the discussion was more along the line of wastage by reason of hydrants and unreasonable use.

Q Have you made any investigation as to the necessities and use of water here for lawn purposes, irrigation purposes, in Provo City?

A As to what would be required?

Q As to what would be required?

A No, sir, I have not.

Q Have you made any investigiation at all as to the use or alleged waste of water here in provo City.

A So far as personal investigation is concerned I thinknot.

Q Assuming Provo City to have a population of ten thousand douls would you say that a use of fifty gallons per capita here in Provo would be an excessive use for culinary putposes?

A For culinary alone?

Q Yes.

A I should say that was excessive in any community.

Q And to what extent would you say it would be excessive?

A I should say forty would be enough.

Q Are you familiar with the use of water in apartment houses in Salt Lake City?

A I am.

Q Is there usually less water used or consumed in apartment houses than in the ordinary residence?

A Generally a little more.

Q Per capita.

A Yes sir.

Q Would you say that Provo City having fifty-three and a half miles of streets to be sprinkled, that a use of 24,750 gallons per mile would be excessive?

A I don't think I should say so.

Q If Provo had twenty-six and one half miles of sewer to be flushed, would you say that the use of 377 gallons per mile would be an excessive use for that purpose?

A I should want to go over those figures from the standpoint in the manner in which we compile ours before I answered.

Q And that would necessitate a pretty thorough investigation of the system of sewerage in Provo City, wouldn't it?

A Only in so far as the manner in which they are flushed.

Q And in the manner or the general construction also, wouldn't it?

A That would have a bearing on the matter.

Q Have rather an important bearing, wouldn't it?

A Yes.

Q So you have no such knowledge upon which to base a judgment with reference to provo City, have you-- I am speaking now, Mr Barrett, of your own knowledge?

A As to actual knowledge of the sewerage system, its construction and so forth.

Q Yes.

A I have not, no sir.

Q If there were nine public drinking fountains in Provo City, would you say that a use of 1440 gallons per day each would be an excessive use for public drinking fountains?

A That is not excessive, no sir.

Q If there were three horse troughs, would you say that the use of 5000 gallons per day per trough would be an excessive use?

A I hardly think it requires quite as much as that.

Q In your judgment, Mr. Barrett, what would you fix the figure to be?

A Three.

Q Three thousand each?

A Three thousand each, yes sir.

Q Have you any data which would enable you to give a judgment as to what would be necessary to irrigate and sprinkle lawns here in provo City?

A Only as compared to Salt Lake City.

Q And that is without having made any investigation as to soil conditions here in Provo?

MR. A. C. HATCH: Just a moment, if the court please. As to irrigation outside of sprinkling of lawns we don't understand Provo City water system is used for the purpose of irrigation other than the sprinkling of lawns.

THE COURT: When you speak of the Provo City water system, you mean that part—

MR. A. C. HATCH: The pipe system only, and that is all we questioned this witness about.

THE COURT: That being the case you need not cross examine as to that.

Q Now then, do you remember the question, Mr. Barrett; leave out the word irrigation there -- let me reframe the question, it will be quicker— can you give a judgment based upon your personal investigation and knowledge as to how many gallons are required to sprinkle one hundred square yards of lawn in Provo?

A Only as based on my knowledge of what it would require in Salt Lake City. I have made no investigation of the matter in provo.

Q You don't know whether the conditions of soil are the same here as in Salt Lake City?

A No. While I one time leved here for a few years, and while I made no experiments in the soil, I have some knowledge of it.

Q When was that, Mr. Barrett that you lived here, how many years since?

A I left here in the spring of 1896.

Q Did you have a lawn at the time you lived here?

A Yes sir.

Q Did yiu do any sprknkling?

A We did.

Q You recall having made any measurements to determine the amount of water you were using.

A We made no measurement whatever.

Q Now then, can you state what anount of water would be required to sprinkle 100 yards of lawn in Provo?

A Only as based on my knowledge of like conditions in Salt Lake City.

Q Would you say that the use of 345 gallons for 100 square yards would be an excessive use per day.

A Yes, it is slightly excessive.

Q In your judgment what figure would you place?

A 250 gallons.

Q Are you familiar with the city cemetery of Provo City and the use of water there, Mr. Barrett?

A I am familiar with the cemetery, but so far as the use of water is concerned, I don't know much about it.

Q Would you say that where there were seventeen separate hose connection that had a use of 92 cubic feet per hour per hose, amounting in all to 117,300 gallons per day would be an excessive use of water in the Provo City cemetery?

MR. A. C. HATCH: Just a moment, the question does not give the area of the cemetery, and unless the witness knows it is immaterial. It is not how many hose connections there are, it is the ar-ea to be covered.

MR. THOMAS: He said he was familiar. Of course if the witness doesn't know that he would not be competent to answer If he were competent to answer, any answer he might give would be material.

MR. A. C. HATCH: If the court please, further, unless it is based on some area or some element other than the question

we object to the question as being wholly immaterial and irrelevant and incompetent.

THE COURT: I think if Mr. Barrett knows the extent of the cemetery and can answer the question it would be material and would be competent. If I remember, without giving the area of the cemetery Mr. Swan testified to the quantity of water that was necessary for the use in the cemetery at a given number of gallons per day. Now, if Mr. Barrett is familiar with the situation he can answer the question whether that amount is excessive, and it would be enlightening to the court to that extent. The objection is overruled. If Mr. Barrett understands the situation he may state whether that quantity is necessary.

A I could not intelligently answer that question without knowing the areaof the ground. I would apply my knowledge of what is necessary per square yard to cemeteries as I know it to this cemetery like others.

Q To this cemetery what?

A Like others.

Q I will ask you what in your judgment then would be the use, necessary use per yard under such conditions as you are familiar with?

A The necessities for lawns and flowers and so forth as they are kept up in cemeteries is very similar to domestic premises. It requires as much as two to two and a half gallons per square yard per day.

Q Are you familiar with the parking system of Provo, Mr. Barrett?

A You mean as to their city parks?

Q City parks in Provo City.

A No, I am not familiar with them.

Q I am advised there are three parks, two of which cover six acres which are sprinkled and in lawn, one of which has not yet been put into lawn.

MR. JACOB EVANS: That is not irrigated.

MR. A. C. HATCHP I understand there is only one under the sprinkling system.

Q What would you say would be the -- let me frame the question in this way-- would you say that the parks of the description and dimensions which I have given, that 135 gallons -- 135,255 gallnns was an excessive use of water for those parks? and such parked streets as there are in Provo City.

A I should have to go into the area and total number of gallons given there in orédr to determine that. However, my opinion is that the same quantity of water per square yard can be applied to parks.

MR. A. C. HATCH: That is what quantity?

A Two to two and a half gallons per square yard per day during the sprinkling season.

Q Are you at all familiar with the uses of water in hospitals?

A Yes.

Q Are you familiar with the ground and uses of water at the State Mental Hospital, Mr. Barrett.

A I am somewhat familiar with the ground, but as to the necessary consumption of water, I am not familiar.

Q You know nothing then as to the consumption that might be necessary in their dairy barns and laundry, in their lawns, and within the hospital for such medical purposes as they might use the water; you have no knowledge as to that?

A I am not familiar with that.

Q Now would you be able to testify as to the use of water within the institution?

A Within the institution itself?

Q Yes.

MR. A. C. HATCH: We object to that question upon the ground that it is shown that the water is furnished at all by Provo City to the State Mental Hospital under a contract; that the grounds of the objection are the same as raised by Mr.

Ray that a city is not authorized to appropriate water for purposes of speculation or sale thereof to parties outside the corporate limits.

THE COURT: Has it been shown this water is furnished to the Mental Hospital, to the State under contract?

MR. A. C. HATCH : Mr. Thomas offered, and it was accepted, a contract between provo City and the State Mental Hospital.

THE COURT: I didn't remember.

MR. A. C. HATCH: which terminated in twenty years. Now, it was under contract once, speculative purposes, as I understand it, supposition is until the contrary is shown that it is still under contract, and for that reason we object to it as not being a municipal purpose.

THE COURT: Objection is overruled.

MR. A. C. HATCH: Note our exception.

THE COURT: This question can be answered by yes or no, read the question.

(Question read)

A On actual knowledge of conditions within the institution I would not be able to testify.

Q What do you allow, Mr. Barrett, for loss of water in the mains and various services in Salt Lake City?

A We have made no allowance so far, because we are unable to make an intelligent guess.

Q I didn't get that answer, you have made no allowance, I couldn't get the rest.

A Because of the fact we have not been able to make an intelligent guess what that amounted to.

Q There is an appreciable loss, however, isn't there.

A There is a probable loss.

Q Mr. Barrett, are you familiar with the book known as the American Civil Engineers Pocket Book, Mansfield Marriott Editor in chief?

A I have seen the book, I am not very familiar with it.

Q Do you regard it and accept it as a standard authority?

A Yes, I think it is a standard authority.

Q And do you accept it as such?

A Yes, I should say I would.

Q Are you familiar with the 1911 edition?

A I am not.

Q You are not then familiar with page 947 of that edition?

A No sir.

Q Are you familiar with the rule given by that book or in that book, whereby the fire fighting reserve may be estimated in cities?

A Not being familiar with the book, of course, I am not familiar with his figures.

Q Are you familiar with this rule, that you should took the square root of the population in thousands and the quotient being the rate in millions of gallons of water per day at which water should be provided for fire service in cities, are you familiar with that rule?

A I am not familiar enough with it to recall it very readily.

Q Is that rule correct?

A I would not say whether it was or not.

Q Beg pardon.

A I say I couldn't say.

REDIRECT EXAMINATION By Mr. A. C. Hatch.

Q Do you provide any fire fighting reserve in Salt Lake?City?

A Only as we provide a reserve for all purposes. Salt Lake City we don,t need a special fire service.

Q What provision is made for a reserve at Salt Lake?

A We have what we term distribution reservoirs at the edge of the city which are for the purposes of reserve in all cases.

Q And for all purposes?

A Yes.

Q Do that figures that you gave per capita include and cover losses

by seepage and waste and water used for fire fighting purposes?

A It does.

MR. THOMAS: I ask the answer be stricken out. I object to it as improper redirect.

THE COURT: Objection overruled. It may not strictly be redirect, but would obviate the necessity of recalling the witness.

RECROSS EXAMINATION By Mr. Thomas.

Q What did you give as the consumption per capita in the apartment houses?

A I didn't state it.

Q probably I misunderstood?

A I said it was larger than the domestic.

Q Larger than the domestic?

A Yes.

Q That is correct, now can you give the consumption?

A I can give it by referring to my reports which I have here.

Q You gave the consumption as necessary being about forty gallons per capita for culinary purposes?

A Yes sir.

Q Now that would embrace all purposes for which water would be used in residences, does it not, Mr. Barrett?

A No, I don't so consider it.

Q For bathing, flushing of sewers and like in residences?

A Yes, I think that would be all right.

Q So that you could safely say that the use of water, such use of water in apartment houses and residences, no matter to what use it might be put, whether for actual cooking, drinking or bathing or flushing of sewers, would all come under culinary use?

A Yes, with the exception of outside purposes.

Q Entirely apart from sprkl sprinkling of lawns, of course?

A Yes.

Q Your use as measured by meters in Salt Lake City for the year

1914, was 72.2 gallons per capita daily, was it not?

A I think on domestic premises, yes.

Q And in one hundred and ninety-seven apartment houses in 1914, you used 95 gallons per capita, did you not?

A I think that is approximately correct, yes sir.

Q How many watering troughs did you have in Salt Lake in 1914, can you give that information now, Mr. Barrett?

A No, I am not able to state that.

MR. A. C. HATCH: Is it in the report?

A I rather think it is given in the report. It doesn,t give the number of watering troughs, it merely gives the consumption.

MR. A. C. HATCH: Is that your 1914 report?

A Yes sir.

MR. THOMAS: I believe that is all.

REDIRECT EXAMINATION By Mr. A. C. Hatch.

Q The amount of water to be provided for watering troughs would be governed somewhat by the number of animals or teams that were watered at the several troughs, would it not?

MR. THOMAS: Object to that as immaterial, it is based upon the size of the trough.

MR. A. C. HATCH: It would certainly go to the necessity.

THE COURT: Objection is overruled.

MR. THOMAS: Exception.

A I presume it would if you were figuring strictly on that basis.

Q To conserve the water?

A Sir?

Q And to conserve the water?

A Yes.

Q Doesn,t practically three fourths of all the water that goes into the watering troughs run to waste?

A I have never made any investigation to determine exactly what does run to waste. I know a lot of it runs to waste.

Q Were you ever at the troughs except when teams were actually

drinking in the troughs that there was about the same quantity spilling out that was running in?

A It might look so.

RECROSS EXAMINATION By Mr. Thomas.

Q In your report of 1914, on page 4 thereof, you have given the domestic per capita use both on the flat rate and meter rate, as 111.8 gallons per capita per day?

A That was combined for flat and meter, I think.

Q That was 1914, one of your short years, wasn't it, rather dry year for you, or was it?

A No, 1914 was an average year.

Q How many reservoirs have you in Salt Lake City?

A Well, we have some places that are called reservoirs that are not. We have what I would term three reservoirs on the edge of the city.

Q Name them please?

A Capital Hill reservoir; Thirteenth East reservoir and Fifth South reservoir.

Q You also have a reservoir at the mouth of Parley's Canyon?

A Yes, that is the intake basin, mere receiving tank.

Q When you included this water in the amount to be reserved for fire fighting purposes, you had in mind, hadn't you, the systems and service means of conveying water to the various buildings, and the pressure that was maintained for the use of these various reservoirs, did you not? A. Yes.

MR. A. C. HATCH: Now, we have a witness, Mr. Johnson, as to the waste of water, and we will finish that matter.

CHARLES G. JOHNSON, called by the plaintiff, being first duly sworn, testifies as follows:

DIRECT EXAMINATION By Mr. A. C. Hatch.

Q What is your full name?

A Charles G. Johnson.

Q Where do you reside?

A On Provo Bench.

Q What is your occupation?

A Farming.

Q I will ask if you were at any time during the past year, made an examination of the ditches and canals below Provo City ~~xi~~ to determine whether or not there was any water flowing to waste?

A Yes sir.

Q From the city system? A. Yes sir.

Q When was it?

A On September second and September fourth.

Q Who was with you, if anyone?

A John H. Stratton and Newt Knight.

Q What did you find as to whether or not water was going to waste from the provo City irrigation system at that time; take the second day of September first?

A We found about 42 second feet.

Q What did you find going to waste, if any, on the fourth day of September?

A About 40 second feet.

Q Sir?

A About forty.

Q About forty second feet; did you make report of that wasting water to any person ? A. Yes sir.

Q To whom?

A To Frank Wentz, water commissioner.

Q In whose behalf was the complaint made?

A In behalf of the Provo Bench canal.

Q Do you hold any official position in that corporation, the Provo Bench Canal Company?

A Board Member.

Q pirector?

A One of the directors.

CROSS EXAMINATION By Mr. Thomas.

Q In what stream did you find this water going to waste September second, Mr. Johnson?

A We found Second Ward Pasture five second feet; Second Ward Meadows, seven second feet.

Q How many?

A Seven. First Ward Pasture fifteen second feet, east of Academy three second feet.

Q On East Academy?

A East of Academy Avenue.

Q How many?

A Three second feet. Dry Creek five second feet.

Q Was that all.

A And between Scott's farm and Carter's farm, four second feet; Tanner's race two second feet.

Q That was all?

A That was all.

Q That makes 41 second feet, doesn't it?

A One second feet at Bullock's farm.

Q Now, on the fourth, give me your figures and ditches there?

A On the fourth, Carter's farm, six second feet, Scott farm, five second feet; Second Ward Pasture six second feet; Second Ward Meadows seven second feet; First Ward Pasture 16 second feet.

Q Where did you make this investigation?

A Where did we make the investigation?

Q Yes.

A All along those streams west of the city.

Q Did you go to the head of each stream?

A No sir, we didn,t go to the head of each stream.

MR. THURMAN: I will first ask Mr. Davis, who was appointed commissioner to take the little deposition, to read the testimony of John Carter.

Whereupon the reporter reads to the court the testimony taken by him as commissioner of the witness John Carter, taken at the residence of said witness under appointment of the court, as follows; and pursuant to the following statement made at the time:

MR. THURMAN: Testimony of John Carter taken before Justin R. Davis, Commissioner appointed by the court to take such testimony. Present as attorneys in the case, W. W. Ray, Mathonihah Thomas, S. R. Thurman.

JOHN CARTER, a witness called by the defendant Esthma Tanner, being first duly sworn, by the Commissioner, testifies as follows:

DIRECT EXAMINATION By Mr. Thurman.

Q Mr. Carter, How long have you lived in this vicinity?

A Well, I could not tell you exactly the years.

Q Approximately?

A For about thirty-five years I have made my home here, that is what you refer to.

Q Here? A. Yes sir.

Q Before that where did you live?

A Well, I lived down in Provo good many years since I was a boy.

Q Are you acquainted with the Esthma Tanner land?

A Yes sir.

Q How long have you been acquainted with that?

A Well, about, as near as I can remember, I guess about fifty-five years.

Q You have had familiar acquaintance with the land?

A yes.

Q During that time?

A Off and on, yes.

Q Do you know of any spring of water on that land during that time?

A It is owing to whereabouts.

Q I don't know as I could describe it, between Spring creek and the bench?

A No sir, I don't know of any.

Q Has there ever been any spring?

A Not that I have ever known of until the seepage come out in the last few years.

Q Now, about when did you first notice the seepage coming out?

A Well, I could not tell as to that, first seepage come out there I was not working there.

Q Well, how far back do you remember the seepage?

A Oh, it has been twenty-five years, I guess.

Q Did you work the land yourself?

A Yes sir.

Q How long?

A Five years.

Q Any seepage there then?

A No sir.

CALEB TANNER recalled by the defendant Esthma Tanner, testifies as follows:

DIRECT EXAMINATION By Mr. Thurman.

Q Mr. Tanner, is that an exhibit you have just tacked on the board?

A Yes.

Q What number?

A 129.

Q What does that exhibit represent briefly?

MR. RAY: I think the exhibit has been explained.

MR. THURMAN: All right, I will withdraw that.

Q That is the exhibit which contains the Esthma Tanner lands?

A Yes.

Q And Spring creek?

A Yes. In the original presentation and description there was one element that occurred in the testimony of Myron Newell and in the testimony of John Carter that was not explicitely marked on the map. I have added that element in red on the west margin of the Esthma Tanner land and designated the line as the edge of the bench. The elevation of this bench being about thirty to thirty-five feet in vertical elevation above the level of the Esthma Tanner land which lies to the east.

Q That mark you have put on there intended to illustrated this matter testified to by Newell and John Carter?

A Yes.

Q And the relative situation?

A Yes.

Q You testified in chief on this same question, that is as to the Esthma Tanner land and the drain and seepage?

A Yes.

Q I don't think I asked you at that time if there was any springs on the Esthma Tanner land?

MR. RAY: Object to that as not rebuttal.

MR. THURMAN: It is in rebuttal of Mr. Newall who has since gone on.

MR. RAY: You went in to the whole thing.

MR. THURMAN: No, we didn't go into the whole thing, but water rising on the land since irrigation commenced above, but as to any permanent spring there before irrigation I never touched that.

THE COURT: Objection is overruled.

Q You are familiar with the land and have been for how many years?
A Been familiar with the land since 1878.

Q Has there during that time been any spring on that land other than the seepage water you have testified about heretofore?

A Not at the point or in the position given by Mr. Myron Newall. In other words, there never has been and is not now any spring in the Estha Tanner land located between Spring creek and the bench at some little distance, as Mr. Newall put it, from the edge of the bench. Approximately his location carried the spring midway between Spring Creek and the bench. The only water on this land is the water that has sprung up in recent years within the last twenty to twenty-five years, along the margin of the bench, and is approximately along the course of the line marked here "drain line".

THE COURT: Anything further except the tabulation asked of Mr. Wentz?

MR. THURMAN: If the court please, before leaving the Tanner matter I have a couple of exhibits Mr. Tanner handed me. To be frank I have not examined them. He stated what they were, certified copies of some records from the office of the Probate Clerk, the title to this property. I don't myself consider them particularly material, but as I have them I would like to offer them.

MR. RAY: Object to them as an incumbrance of the record.

THE COURT: I think the stipulation covers it.

MR. THURMAN: I am inclined to think so myself.

THE COURT: I think it would be better not to incumber the record. No one questions the title or right to possession.

MR. THURMAN: There is just on e feature, however, and that is as to the date of the patent; the date of the patent is June 10th.

MR. RAY: So far as I am personally concerned, the introduction of this exhibit may be waived, and it may be admitted that the exhibit shows the date of patent as stated by Judge Thurman, and the record will be relieved of the exhibit.

THE COURT You have not stated the date.

MR. THURMAN: Tenth day of June, 1873.

MR. THOMAS: I have no objection at all. My judgment was the stipulation covered that and all matters relating to the title.

12:00 Noon, Recess to 2:00 P. M.

****

L. L. DONNAN called by the defendant L. L. Donnan, testified as follows:

DIRECT EXAMINATION By Mr. Thomas.

Q You have been sworn?

A I have.

Q Your name is Lyman L. Donnan?

A Yes sir, it is.

Q You reside in Upper Falls resort?

A At Upper Falls Resort, Provo Canyon.

Q You are the occupant and you are the owner and in possession of that land described in paragraph 2 of your complaint, northwest quarter of the northeast quarter and the northeast quarter of the northwest quarter, and south half of the northwest quarter of Section 34, Township 5 South, Range 5 East, Salt Lake Meridian?

A I am.

Q You have been the owner and occupant of that land since the seventh of November, 1903.

A That was the date the patent was issued.

Q You were in occupancy prior to that time?

A Yes, since August, 1898.

Q You have a resort there?

A I have.

Q Did you appropriate any waters raising in springs upon that land?

A I did.

Q When?

A In August, 1898.

Q Have you continued the appropriation of the waters as described in your complaint?

A I have.

Q And put them to beneficial uses as you have set forth in your complaint?

A I have.

Q You are maintaining a resort there?

A I am.

Q Do you have any cultivated land in addition to the resort?

A I have about, altogether about twenty acres of land that I use the water for irrigation.

Q Do you use any water for power purposes?

A I do.

Q About how much water arises upon the land that you use for irrigation purposes? does it vary, Mr. Donnan, in the season?

A It does, the flow of the stream.

Q Well, give approximately; is it as you have set out in your complaint here, varying from one second foot to ten second feet according to the season of the year?

A Yes.

Q Water rises and sinks upon your land and finds its way into the Provo River?

A It raises on land that I have purchased by contract from the Telluride -- the Utah Power & Light Company, and flows on my land, across my land and into provo River on my land.

Q The land which you are using and are about to -- or cultivating, is along the bank of the river, is it not?

A It is along the stream and on the bank of the river.

Q So that all the water which you put to beneficial use for agricultural purposes finds its way directly into the stream?

A Immediately.

Q And you are not using this water on any other land than that described in your complaint, which is along the bed of the stream?

A No sir, I am not.

Q Is it necessary for you to use the amount of water as you have set forth in your complaint?

A It is.

Q You have also alleged that you have, or that you did on the 23rd day of September, make an application in writing in the office of the State Engineer for 20 cubic feet of water for power purposes?

A I did.

Q The water to be appropriated out of the Provo River?

A I did.

Q That application was number 4978?

A It was.

Q This copy which you have here is not a certified copy-- I will ask leave to furnish a certified copy of application No. 4978 for power purposes.

MR. A. C. HATCH: How many feet of water?

MR. THOMAS: Twenty cubic feet of water.

MR. A. C. HATCH: Per second?

MR. THOMAS: Yes.

Q This water is diverted from Provo River on your resort?

A It is.

Q And finds its way immediately back into the Provo River?

A Immediately, just as soon as I run it through my wheel.

Q Are there any points of diversion between your point of diversion and your place of use?

A No.

Q Has this application been approved by the State Engineer?

A It has not as yet, although I have been in use of the water. The application was held up for approval on a protest from the Utah Power & Light, which protest now, has been, I think released.

MR. A. C. HATCH: So far as we are concerned the copy may be admitted, if it is a copy.

MR. THOMAS This is not a copy, I am certain it is not

evidently
a complete copy because there is data that is ordinarily attached to a copy that is not on this, so that I would not want to present this.

Q Do you have fish ponds there upon your place as you have set out in your second cause of action and counterclaim?

A I have.

Q Do you use water diverted from those springs for the purpose of maintaining your fish springs .

A I do.

Q Fish ponds?

A I do.

Q Does that water find its way back into Provo River?

A Immediately.

Q Are there any other points of diversion between your points of diversion and the places of use?

A No.

Q So that the water that you are using is not in a sense taken from any other water user on the river?

A It is not.

Q That is to say it does not come between any other point of diversion?

A No.

Q Does not interfere with any other points of diversion on the stream?

A Not that I know of.

Q When did you first begin the appropriation of this water

A In August, 1898.

Q And have you had uninterrupted use of the water since that time?

A Not all of it. Utah Power & Light built a flume and diverted a portion of that water, the overground flow, from about 1902 to 1905, when I tore out their flume.

Q Let me ask this question, Mr. Donnan, have all difficulties between you and the Utah Power & Light Company been adjusted?

A By contract.

Q So that aside from that there has been no interference with your rights to the use of this water.

A None.

Q As you have alleged in your complaint?

A None.

Q You ask the title be quited to you for the uses of this water for agricultural and power purposes and fish pond purposes as you have set out in your complaint?

A I do.

MR. THOMAS: I think in addition to the stipulation entered into I will ask no further questions.

MR. RAY: All the rights which you claim against the Utah Power & Light Company are fixed and settled in a contract made over a year ago?

A They are.

Q And still existing?

A And still existing.

MR. THOMAS: If necessary I can produce a copy of the contract, I did not think it necessary.

MR. RAY: We don't question it.

CROSS EXAMINATION By Mr. A. C. Hatch.

Q Have you ever raised any crops, Mr. Donnan?

A I have raised vegetables for the place.

Q On about how much?

A Probably an acre of ground altogether.

Q That is all that you have ever cultivated?

A That is all that I have ever cultivated, the other irrigated ground is groves, timber for shade for the resort.

Q And practically the whole of the ground of the resort is shade?

A To a great extent, and the lawns that is on the ground.

Q D° you know how deep it is to the ground water there.

A About two — two and a half feet.

Q So that the trees would reach the ground water?

A They would reach the ground water, yes sir.

Q And really don't require surface irrigation?

A Oh, the trees might not, but the grass would.

Q And the rest, you simply use it for lawn purposes?

A For lawn purposes, yes.

Q Don't present to raise any crops?

A No.

Q And do you use it -- do you dampen it by sprinkling or by flooding?

A By sprinkling.

Q So that the use -- you have a pipe --

A That is part of it by sprinkling. The grove on the side, the Upper Falls side, on the south side of the hill, is irrigated by sub irrigation from the upper Falls stream, and from the supply from my flume, that is the head of my pipe line.

Q How much of it is covered with the pipe system and sprinkling system?

A I never have measured it, but I would judge there is about eight acres.

Q Could you give us definitely the total area that has been irrigated in any way at all?

A About twenty acres I would judge, sub irrigation, and sprinkling.

Q It is all sub irrigated, all of the flat where your resprt is?

A Yes.

Q Is all sub irrigated before you located it?

A Yes.

Q And is still sub irrigated as it was then, isn't it?

A For the trees.

Q And your system then would simply be the sprinkling system to keep the grass green on the resort.

A That is on the bottom lands, that is along the north side of the stream where the main part of the resort is.

Q On the south side of the stream it is generally a precipitous hill side, isn't it?

A On the south side it slopes about one foot in four.

Q And the trees were growing there when you located the same as they are now?

A They were.

Q And always irrigated in the same manner, were they not?

A Not exactly, the supply from the overflow of my trough, at the head of my pipe line irrigates it and the trees are very luxurious where that water drains to .

Q But it just runs down--

A It runs down.

Q A declivity and finds its way into the stream?

A Exactly.

Q You have never diverted the water from the stream for the purpose of irrigation?

A Not for the timber. On that south hill side I have some fruit and raise potatoes to supply my resort there.

Q On about an acre?

A About an acre, yes.

Q Do you have any idea of the quantity of water necessary for the sprinkling and keeping the grass on the resort, the eight acres on the resort?

A I find that my pipe line is taxed to its capacity to furnish the amount of water for sprinkling in the dry portion of the season, and also at times I run a power wheel, I use my pipe line for the power wheel also, furnish power to three freeze ice cream, and turn a washing machine.

Q And the water you us for your power is not at the time used for sprinkling?

A Why, I use it through the faucet. I have a little mix water wheel I attach to the faucet.

Q When you are generating power, the water with which you generate the power does not get into your sprinkling pipes, does it?

A Yes, I have two power plants, one that I use with a small wheel attached to the faucets on my water system. The other power plant is the one that I divert the water from the river through

the old flume, through the old Telluride flume.

Q Was there another outlet between the sprinkling nozzle and the wheel that generates the power?

A It is attached directly on the hose, it is interchangeable with the hose.

Q When you are generating the power are you sprinkling at the same time with the same water?

A Sometimes. I don't get the full force of the water when I do.

Q So that the water when being used for generating power cannot be used, the same water for sprinkling purposes, can it?

A Not right at the same time.

Q That is what I mean. Then it runs, the water used for generating power runs directly into the river?

A Directly.

Q What I am asking you about is the quantity of water that is necessary and that you have used heretofore in the sprinkling of the eight acres where the resort is.

A I could not give you the data on that, because I have at times used the full pressure of the water, or reduced the pressure.

Q Do you think that it would require any more water than is necessary to sprinkle the lawns of Provo City or Salt Lake City?

A I don't think so.

Q Similar quantity would be sufficient?

A Probably, although the land is very porous, sandy, the soil is only about six or eight inches deep.

Q Well, but I understood you to say it is wholly shady?.

A Shady.

Q Shady, yes. A. Yes.

Q That is, the sun doesn't get down to it to dry it out?

A In places.

Q Like it would in the valley?

A I think it requires just as much or more moisture there than it will where the soil is deeper and holds the water better.

Q How large a pipe have you?

A I have an intake and pressure box of--it is a small barrel with

a three inch pipe leading from it. That is reduced to a two inch pipe for about four hundred feet and an inch and a half pipe through the ground.

Q And your pipes, to which your hose is attached.

A Those are connected on to an inch and a half pipe, and later a half inch, reduced to a half inch pipe.

Q Does it require the capacity of the pipe as you have it for the sprinkling of the ground below?

A It does at times, that is to have anything like a full head, full pressure.

Q About how often do you sprinkle.

A Most of the time in the summer time.

Q I mean how often do you get over the entire tract?

A Not any more often than to keep the grass alive.

Q Of course we can form no idea as to that, do you sprinkle it all over once a week?

A Yes, we sprinkle it oftener than that.

Q Now, how often do you sprimkle it?

A Probably we get over that ground twice a week entirely, and sometimes it requires more than that because a portion of that ground gets very dusty, on account of the people tramping over the ground.

Q Now, what portion of the eight acres is covered with grass that you sprinkle?

A There is about three acres, I would judge, or four.

Q Would you be satisfied with a duty of, sprinkling duty such as would be found necessary for Provo City or Salt Lake City?

A I could not say that I would. I will be satisfied with enough water to keep that--

Q Unless you can give us the quantity of water I don't know how we are going to determine whether to contest your right or not to contest it.

A You can figure out the amount of water the pipe will carry.

Q No, I cannot, I might employ an engineer to do it.

MR. THOMAS: How large a pipe have you, Mr. Donnaf

THE COURT: He went into that in detail a moment ago.

MR. RAY: Like to call Mr. Wentz for one question, your honor please. This is in respect to the claim of the Timpanogos Canal Company.

T. F. WENTZ recalled by the defendant Timpanogos Canal Company, testifies as follows:

DIRECT EXAMINATION By Mr. Ray.

Q Mr. Wentz, you heard the testimony, did you, of Mr. Crowther's, relative to the fruit crop on the upper East Union and Timpanogos ground or lands for the year 1916?

A Yes.

Q As I remember Mr. Crowther's testimony he said that the fruit trees under the Timpanogog bloomed in 1916, and on the UpperEast Union they did not, and aptributed it to lack of water under the canal of the Upper East Union. Have you ever had the occasiôn to observe the effect of lack of water upon trees?

A Yes.

Q In respect to blooming? A. Yes.

Q Just state what your observation in that respect has been?

A Fruit buds are formed the latter part of July, and the leaf buds about two weeks earlier. With a normal supply of water in the month of July and month of August, the blooming the following spring is normal. With a scarcity of water in the month of July and deficiency there is a profuse blooming in the fâllowing spring provided they are not over irrigated in the month of July. Trees and plants when they are in danger of distruction use all their energy and all their forces toward reproduction. If they are dry in July and form a great number of buds and are over-

irrigated in the month of August the fruit buds are changed to leaf buds. If the supply in July is normal, and the supply in August is deficient, there is no change in conditions, and they bloom normally in the following spring.

Q So that from your experience, would you say that the fact that the trees under the Timpanogos bloomed profusely in the spring of '16 would indicate that they had an over supply of water in the summer of '15?

A No, it would not indicate they had an over supply.

Q What would it indicate?

A It would indicate a normal supply or deficiemt in the months of July and August.

MR. A. C. HATCH: Mr. Wentz is preparing a tabulation of the water actually used by the Provo Pressed Brick Company.

THE COURT: From his report?

MR. A. C. HATCH: That can be introduced in evidence.

MR. CLUFF: Oh yes.

MR. A. C. HATCH: Then it can be introduced by consent of all parties when prepared, particularly with the consent of Mr. Cluff who represents the Provo Pressed Brick Company.

MR. CLUFF: I want to cross examine him a little bit on it probably.

OMISSION.

Discussion as to Heber City stipulation.

THE COURT: Now, is there any other evidence to be introduced.

MR. THOMAS: Your honor, I wish to present the testimony of Mr. Thompson and Mr. Johnson in rebuttal to the rebuttal testimony -- surrebuttal of the plaintiff with reference to the waste of water on September second and September fourth.

MR. RAY: We object to that testimony as being immaterial, not proper surrebuttal, the matter of the use of water has been gone into by Mr. Thomas, and thorough survey-- there was a beneficial use for all the water, that was his main case, during 1916.

MR. THOMAS That is true, and the court permitted us to rebut testimony.

THE COURT: You have your witnesses sworn and I will see what the testimony is. If it is directed to the specific evidence of these witnesses I will hear it.

THOMAS E. THOMPSON recalled by the defendant Provo City, testifies as follows:

DIRECT EXAMINATION By Mr. Thomas.

Q You have been sworn, Mr. Thompson?

A Yes sir.

Q Did you hear the testimony of Messrs, Stratton, Knight and Johnson with relation to the allwged waste of water on September second and September fourth on the ditches known as the Second Ward Pasture, Second Ward Meadow, First Ward Pasture and the Dry creek?

A Yes sir, part of it.

Q And also Bullock's springs, Tanner's rade; what do you say as to the waste of water on the morning of September second, between four thirty and five, or about those hours?

MR. A. C. HATCH: Just a moment, I don't believe any hours were given.

MR. THOMAS: I think the witness Knight said four thirty, about four thirty or five o'clock.

MR. RAY: Yes, he did.

Q With reference to the water amounting to five second feet running to waste below the Second Ward Pasture.

A I was not down there.

Q At that hour?

A At that hour.

Q What do you say as to the waste of water amounting to seven cubic feet, or seven second feet from the Second Ward Meadow on the same date and time?

A I was not down there.

Q What do you say as to the water amounting to fifteen second feet running by the First Wast Pasture?

A We had a tight canvass dam in at the head.

Q Now, the head of that stream--

A Is the Factory race.

Q Is the factory race? A. Yes sir.

Q If there was any water amounting to fifteen second feet or any other lessor amount, in your judgment, from what sources would that water have come?

A Could not come only through seepage and the sewer.

Q Can you state if there was any water running by or from the city through their streams east of Academy Avenue?

A There might have been; it is the morning of the change, every Monday morning it is the change from the north to the south, and it may sometimes get there little ahead of it, and sometimes it is behind time. I wasn't there that morning.

Q What do you say as to the water running through Dry Creek, amounting to five second feet of water?

A Dry Creek we have nothing to do with.

Q Not within the Provo system?

A No sir.

Q Now, water running past the Carter's farm amounting to five second feet or four second feet at that day, what do you say as to that?

A What is all spring water.

Q Where do the springs rise?

A I can show it if I could see the map.

Q Just erase those other exhibits there. Let me ask, that is water that comes out of Provo River?

A No sir, it raises on the Taylor farm, C. H. Taylor's farm.

Q What do you say as to the water running through Tanner's race amounting to two second feet on that day and time?

A That is the same ditch they claim five second feet. It cannot be any other, the Tanner race and Scott ditch is the same ditch

Q What do you say as th the water running from the Bullock's farm, amounting to about one second foot.

A Might have been, I wasn't out there that morning, such a thing could be from the Upper East Union.

THE COURT: I think it is better to question as to the things Mr. Thompson knows about. He doesn't seem to have knowledge of these matters.

Q Directing your attention to thefourth day of September, were you in the morning at any one of these ditches to ascertain if any water was going to waste on Carter's farm?

A I had nothing to do down there.

Q And the Scott's farm.

A The Scott farm?

Q The Scott and Carter, that is the same ditch?

A The Scott ditch?

Q Yes.

A The Scott ditch is a city ditch, that is the farthest ditch west.

THE COURT: Now, I don't think you heard the question, you were asked the question whether on that morning between four

thirty and five you were down there?

A I was not.

Q Did you have a tight dam at the head of the City race on the morning of the fourth?

A Yes sir.

Q And the same answer as to water getting into the lower part of that ditch on this morning would be the same as the answer you gave as to the Saturday preceding?

A Yes sir.

Q Were you present and ascertained whether there was any waste at the foot of the ditches of the Second Ward Meadow?

A No sir.

Q Nor the Second Ward pasture?

A No sir.

CROSS EXAMINATION By Mr. Ray.

Q As to the Factory race, you had a ~~right~~ tight dam at the head?

A Yes sir.

Q A good many of the town ditches on the east side of Provo City connect directly with the Factory race, do they not?

A No.

Q Some of them do?

A Just one on the east side.

Q Where is that?

A It is right below the ice plant up here, about a mile north.

Q Beginning here for instance, Center street and that block a mile north, or there no east and west ditches which have an inlet into the Factory race?

A Yes, there is another one up here three blocks.

Q Are there any below here?

A Yes sir, there is one again at the -- just south of Center street

Q That makes three in all?

A Yes sir.

Q Do you know whether any or all of those ~~it~~ ditches might not be

emptying into the Factory race during the night?

A They could not get back in. This one can here, but the balance could not get back in. Those on the east could get back into the Factory race after being taken out, yes, they could get back in.

Q You have no jurisdiction over the west side, have you?

A Just as the east anymore than I keep a deputy mostly down there.

Q You gave no particular attention to what was going on on the west side on any of these dates, did you ?

A Yes sir-- well, no more than common, certainly not.

PETER B. JOHNSON, called by the defendant Provo City, being first duly sworn, testifies as follows:

DIRECT EXAMINATION By Mr. Thomas;

Q State Your full name ?

A Peter B. Johnson.

Q Where do you reside?

A In the southwest of here, in the town southwest.

Q In provo City?

A Yes sir.

Q What is your business?

A Farming.

Q How much land do you farm?

A I farm seventeen acres.

Q From what ditch do you take water for the irrigation of this land?

A One parcel of land is way down where there is no water, away from this other part.

Q How much land do you have water for?

A Six acres.

Q Where is that located?

A Right on the upper part, it is right along the South Pasture road.

Q From what ditch do you get water to irrigate this land?

A Scott ditch.

Q At what time do you receive water?

A Five o'clock Monday morning, until eight.

Q Directing your attention to the morning, Monday Morning, September 4, 1916, state if you were irrigating your land at that time?

A Yes sir.

Q State if youhad all the water that was in the ditch and applied to your land at that time?

MR. RAY: What ditch?

MR. THOMAS: The Scott ditch?

A Yes sir.

Q State if there was any water which went by your dam down past this place at that time?

A Well, there wasn't any without it was just a very few drops.

Q You aimed to get the whole of the water, did you ?

A Yes sir, I did.

Q Is your land at this point on the, or near the brow of the hill which overlooks Dry ditch?

A Yes sir.

Q State if any water percolates through your land and other land and into Dry Ditch, under this bluff on which you are located?

A It does.

Q That is below a point of any use?

A They cannot use it below where it springs up from.

Q Are you the lowest water user on the ditch?

A Yes sir.

Q And you being on the bluff there just above Dry Ditch, are you able to state that water has percolated and does percolate during the irrigation season into that ditch?

A Yes sir.

Q And flows down into the lake?

A Flows into Dry creek.

Q Then from there flows into the lake or the swamps?

A Into the lake.

Q And beyond any point of use? A. Yes sir.

A MR. RAY: What time Monday morning on the second did you begin to irrigate-- on the fourth?

A Five o'clock until eight.

MR. THOMAS: That is all, if the court please.

THE COURT: Now, is there any further evidence to introduce?

MR. THOMAS: Your Honor, Mr. Goddard advises me Mr. Peay who will testify as to September second -- it will take but a moment.

WALTER PEAY recalled by the defendant Provo City, testifies as follows:

DIRECT EXAMINATION By Mr. Thomas.

Q Give your full name?

A Walter Peay.

Q You are deputy water commissioner, Mr. Peay?

A Yes sir.

Q Are you familiar with the streams of which testimony has been given relative to alleged waste of water known as the Scott ditch?

A Yes sir.

Q Can you stateif there was any water going to waste on that ditch on the morning of September second, 1916, about four thirty or five o'clock in the morning?

A Whyat day of the week was that?

Q That would be Saturday?

A No sir, none goes to waste on Saturday.

Q Does any go to waste --

A Friday and Saturday I am particular acquainted with that part of it. It is all used on the same farm I live on.

Q What can you say as to the alleged waste of water through the First Ward pasture on that day?

A Through the First Ward Pasture?

Q Yes.

A I wasn,t there.

Q Were you at or near the end of the ditch from which water runs through the Second Ward Meadows, south meadows.

A I have never seen any water run to waste any time I have been down there during the irrigating season.

Q Were you there this morning?

A No sir.

Q Where were you on the morning of September second, at any other place than that, just describe at that time?

A I don,t remember where I was that time.

Q Were you familiar with the condition of the dam at the head of the City race on the morning of September second, about four thirty or five o,clock A. M.?

A Which dam do you mean, bythe brick yard, or head of the race?

A The Factory race?

A We always have a tight dam in there by the brick yard.

Q Are you familiar with the location of thedam at the head of the Factory race where they turn the water out at night?

A Yes sir, there every night and morning.

Q Were you there on the morning of September second, 1916?

A That is Saturday?

Q Saturday. A. Yes sir.

Q State the condition of that dam at that time?

A Had a canvass in there.

Q Was any water going by down through the race past the dam at that time?

A What time in September?

A Four thirty or five o,clock September 2, 1916?

Q I had a canvass which was twenty feet long and six feet wide put in there, shut the water off dry.

Q There was no water going by?

A No sir.

MR. RAY: What time in the morning do you go to the head of the Factory race?

A Generally get there at six o'clock.

Q What time were you there that morning?

A Six o'clock.

Q And the ditch was dry at that time?

A Yes sir.

MR. THOMAS: That is all.

3:10 P.M., Recess to 10:00 A.M., February 20, 1917.

OMISSION.

Discussions as to Wasatch County stipulation.

THOMAS ASHTON, recalled by the Upper East Union Canal Company, testifies as follows:

DIRECT EXAMINATION By Mr. Robinson.

Q You have been previously sworn, haven't you?

A Yes sir.

Q What is your name?

A Thomas Ashton.

Q What official position do you occupy in the Upper East Union Canal Company?

A I have been watermaster for the Upper East Union Canal Company.

Q You were watermaster during the season of 1916?

A Yes sir.

Q And during the season of 1915? A. Yes sir.

Q How many times during the season of 1915 was the moss cleaned out of the canal, Upper East Union canal?

A At some parts of the canal it was cleaned out four times, and other parts of it was cleaned out once, other parts twice.

Q What parts were cleaned out four times?

A There is a part from Harry Crane's gravel bed just east of Pleasant View meeting house down to Henry Elliott's, that is a distance of two miles, I should judge.

Q What part was cleaned out three times?

A From our lower measuring flume and old flume we had in there down to about Silas Allred's place, distance of half a mile.

Q Now, in regard to 1916, how many times, I will say, was the canal cleaned out during 1916?

A There was part of it cleaned out three times and part of it twice and part of it but once.

Q When was it cleaned out?

A The first cleaning was on the third day of August.

Q And the next?

A On the eleventh of September.

Q What part was cleaned out on the third day of August?

A Part from Harry Crane's gravel bed down to Elliott's.

Q Was that same part cleaned on the eleventh of September?

A No sir, it was cleaned on the 15th of September.

Q On the eighteenth of September?

A Yes sir.

Q Now, what can you say as to the condition of the canal on September first and September third, these are the dates Mr. Tanner testified he visited it in 1916?

A Why, on September first and September third, there was a part of the canal that was in -- it had gone a little over time of being cleaned. It was not in the best of condition, not in the worst I don't think. I had orders to clean the canal whenever it was needed, and I figured I was about a week behind in getting at that particular part of the canal.

Q What orders did you have from the board of directors?

A I had orders to clean the moss and trash out of the canal whenever it was necessary to the flow and advantage of the distribution of the water.

Q You say you were about a week behind cleaning the moss?

A That is what I figured a week before would have been ample time, but it was, I figured in worse condition than it should have been, on account of being that week behind.

Q For what reason were you behind?

A Well, we were in court here and last three days in August, and that throwed me a little behind with other work I had to do on the canal, and before that I had been working on some leaks in the canal, and other reasons.

Q When was this part of the canal you were behind on on September first cleaned?

A It was cleaned on September 11th.

Q Can you give the flow of the canal at your measuring device on September first, 1916?

A I can give it as our recorder-- we have an automatic recorder

there that gives it.

Q What was it on September first, 1915 -- 1916.

A 15.44 second feet.

Q What was it on September third?

A It was 14.76 second feet.

Q What was it on August 31st?

A On August 31st it was 16.20 second feet.

Q What was the highest amount of water that you had there in the canal between the fifteenth of August say and the fifteenth of September?

A It was 19.84 second feet.

Q Was the canal in approximately the same condition when it carries the last amount you have named as it was on September first and September third?

A I had went through that particular part on September 11th, and for that reason it was in a little different condition.

Q Have you visited the Gillespie farm recently?

A It is on the main road, county road, I have been along the road there several times all winter.

Q And the Alred place also?

A Yes sir.

Q Is there at the present time any water in the Upper East Union Canal, company canal?

A No sir, entirely dry.

Q What can you say of the water coming from the Gillespie place to the Allred place at the present time?

A The last time I was along there, the 17th of this month, or last Saturday, I noticed there was water down in Allred's lucern and alfalfa patch, had melted the snow away for three or four rods down into the lucern, down through grain stubbles on the Gillespie place into a peach orchard.

Q Is there any water in the canal on this date?

A Yes sir.

Q Where did this water come from, if you know?

A It is my idea it comes from the wooden pipe laid along the county road and close to the canal.

Q Now, what is the condition of the canal, or was it in September, 1916, as to willows being crowded over the canal making it difficult to get through?

A I went right through the canal with a team-- that is, I followed the man along, with a team along the bank. Never saw him have any trouble or any willows to pull out of the canal at all.

Q You clean it out with team and scraper?

A Yes sir.

Q You were not bothered at all with willows?

A No sir.

Q In any part of the canal?

A There was one part of the canal in August that the wind had blowed three small trees across the canal, they had not been in there more than a couple of days. All the brush I remember cutting out of the canal.

CROSS EXAMINATION By Mr. A. C. Hatch.

Q The canal was in bad shape then when Tanner visited it?

A It was really not in ordinary shape, not in the average shape that it is kept in.

Q You heard Mr. Tanner testify?

A No sir.

Q It had moss in the canal, hadn't it?

A Yes sir.

Q And so as to back up the water and cause it to overflow in places?

A No, I don't think it caused it to overflow any place.

Q You don't know whether it did or not, do you?

A Well, I was along the canal every day, and I never saw that it overflowed.

CROSS EXAMINATION By Mr. Thurman.

Q Just one question. Where did this pipe water, wooden pipe,

where did that come from, you speak of finding water?

A It comes from provo river, starts into the pipe at the mouth of the canyon.

Q From the Provo water works?

A Yes sir.

Q Pipe is connected with the mains?

A Yes sir, it is the main pipe from the Provo river to Provo City until they put the new pipe over the bench.

Q Where was the water going after it left the pipe?

A It was going into a lateral from the Upper East Union canal.

Q Goes into a lateral leads from the Upper East Union?

A There is one place about ten feet from the Upper East Union, yes sir.

Q Where is that?

A That is on the Gillespie place and also on the Allred place.

Q These willows you have spoken of, you were asked about willows growing on the bench and dropping over into the ditch, wasn't it?

A No sir.

Q Nothing of that kind?

A No sir.

Q Willows was on the bank, was it.

Q There is willows on the bank, but I never saw any— I have never taken any out and I have been through the canal this winter. There is none hanging in the canal now.

Q You mean there is none drifting in?

A None hanging down into the portion where the water flows.

Q You had sweet clover there about the first of third of September, didn't you, begin to seed.

A I suppose it would begin to seed about that time.

Q Wasn't that obstruction more or less?

A None that I know of.

Q How far is the particular place to which your attention has been directed below the diverting point of the Upper East Union?

A Why, in the neighborhood of three miles diverting from the river.

Q Ditch was carrying through this bad place, carrying all the water that was coming in at the head, was it, there was none breaking ov over?

A Well, I never knew of any breaking over.

CROSS EXAMINATION By Mr. John E. Booth.

Q Where in your canal, Mr. Ashton, is thesepage the most, above of below the Gillespie farm?

A It is above the Gillespie farm.

Q Above where you have been testifying to?

A Yes sir.

Q You know the Haddock place?

A Yes sir.

Q Will Baum place? A. Yes.

Q Didn,t you have some very bad leaks there?

A No sir.

Q Didn't you turn the water off on one occasion?

A No sir.

Q Stop it and put lime in there?

A No sir,

Q When was that, year before last.

A Yes sir.

Q Didn,t it leak badly last year? A. No sir.

Q Not at all?

A I could not say as to not at all, but none that was visible or none that could be found.

Q Don,t you know from the east side of the road on the Haddock place right below your canal there was a big stream, half a second foot or so running most all summer?

A Yes sir, but I know it run there while we had the water out of the ditch cleaning it.

Q How long did you have the water out?

A For eight days.

Q Didn,t make any difference when the water was in your canal or

out?

A I could not see it making any difference.

Q So you don't know how much of that water was out of your canal?

A No sir.

CROSS EXAMINATION By Mr. Thomas.

Q Did you say you thought this water might have come from the town pipe of the city?

A Yes sir.

Q What made you say that.

A There is no other source for it to come from unless it comes out of the ground; there is no water in the Upper East Union canal.

Q That is just a guess on your part?

A Yes sir, I never examined it to see, it may be a spring.

Q You have made no personal investigation at all?

A No sir.

Q Don,t know the condition of the pipe?

A No sir.

Q Aren,t there a number of seeps along that place, along the pipe line?

A Not that particular place.

Q Are there above?

A Yes sir.

Q Which might easily find their way down by gravitation?

A Well, I hardly think so, I couldn't tell as to that, I have not investigated that far.

Q You have not make any investigations along that part of the ditch at all, have you?

A Not as to knowing where that water comes from I have not, I just saw the water there.

Q So that it is a pure assumption on your part?

A Yes sir, anymore than I know it doesn,t come out of the canal.

REDIRECT EXAMINATION By Mr. Robinson.

Q You mean the water on both these places, Allred's and Gillespie's?

A Yes sir.

Q Similar conditions obtained as to both of them?

A Yessir.

RECROSS EXAMINATION By Mr. Thurman.

Q You say there might have been a spring there, don't you know whether there is a spring there or not?

A No sir.

Q Did you ever see a spring there before?

A I have seen water there before.

Q Is it a usual thing for water to be there?

A Yes sir.

Q Flowing away like it was there then?

A Yes sir.

Q Running down on the land?

A Well, it has been for the last two years, it is running there now.

Q Is there any difference in the amount now from what you have seen before, or has it increased or decreased?

A I could not say as to that.

Q Why did you conjecture it might be from the pipe, wooden pipe?

A Well, I have saw along on the road outside of these laterals where there has bee leaks in the road. For that reason I thought probably there was a leak under that lateral.

Q Just one further question on that point, you have been acquainted with that place for a great many years, haven't you?

A Yes sir.

Q Is it worse in the last year or two than it was before?

A Yes sir.

Q So, if it is a spring, the spring is increasing?

A Yes sir.

Q If it is a leak in the pipe the leak is increasing ?

A Yes sir.

Q You have seen them repair the pipe along there, haven't you ?

A Yes sir.

Q There is a pipe there?

A I know there is a pipe there, yes.

MR. ROBINSON: I have an exhibit like to have marked. I will state in explanation of this exhibit one reason, or one of the reasons for introducing this, so that the court will understand our position, this canal company is asking among other things that it have a continuous flow. They are alleging for various reasons the flow is not continuous. We are introducing this exhibit to show the exact condition of the flow during the year 1916. It is t aken by the measuring device and it shows that the flow is up and down and very irregular.

THE COURT: Flow of the river?

MR. ROBINSON: Flow of this particular canal, that is one of the purposes.

T. F. WENTZ, recalled by the defendant Upper East Union Canal Company, testifies as follows:

DIRECT EXAMINATION By Mr. Robinson.

Q I handyou that exhibit, Mr. Wentz, it will be defendant's Upper East Union canal company's exhibit 197, ask you to explain what this exhibit is?

A Exhibit 197 is a register of the record of the Upper East Union canal from August 18th to September 7th, inclusive, 1916. The dates are marked along the bottom of the sheet, and the space between the heavy lines as one day and the smaller spaces each one hour. Near the center of the exhibit is marked the gauge height in feet from zero to 2.0. The height of water for a time

pencil
is shown in these irregular lines across the sheet from end to end.

Q Where was this measurement taken?

A This was taken at the rating station of the Upper East Union canal, approximately two and a half miles below the mouth of provo Canyon.

Q Can you give any explanation as to why there is such an irregularity occurs in the amount of water in this canal?

A During this period shown on this exhibit the gates near the mouth of the canyon leading to this canal were not changed, ran continuously, the flow ran continuously. Above this point, this station where this record is taken to the head of the canal are the diversions of the Faucett Field ditch company. The irregularity shown on this map is due to the irregularity of the mixx diversion on the Faucett field.

CROSS EXAMINATION By Mr. A. C. Hatch.

Q How would you suggest a change of that irregularity, Mr. Wentz.

A The Faucett field people ought to be put on a schedule and have gates put in so that they could draw the same amount of water continuously, gates and weirs so that they could be measured and rated.

Q Do they have sufficient area to give them a regular stream that would be sufficient for irrigating under that system?

A Possibly not on a continuous stream. They could be, their schedule could be made for say four days out of a week.

Q Then someone would have to be irregular below, would they not?

A No, the other schedule below could be made to conform to the Faucett Field schedule.

Q So that there would be a regular flow to everybody?

A Yes.

CROSS EXAMINATION By Mr. Thurman.

Q Can you give here the maximum and minimum flow on the third and first of September?

A I have a table here, the minimum on September first was 13.36 second feet, the maximum on September first was 16.6 second feet. The minimum on September third was 13.6 second feet, the maximum on September third was 15.88 second feet occuring between eleven and twelve o'clock P. M.

CROSS EXAMINATION By Mr. John E. Booth.

Q Does a part of this fluctuation occur from the fluctuation in the power plant?

A No, very little of it. The Upper East Union canal draws under about a three and a half foot head from city race. The is great deal larger than the creek, and fluctuation existing from that source would be very light, hardly noticeable.

Q The Faucett Field people own small tracts rather than large ones up there, do they not?

A Yes.

Q Would it be possible or profitably or economical at all to give each one of those a constant stream?

A No sir.

Q Couldn't do that? A. No.

Q Would this account for a part of the fluctuation, that a man gets through watering at eleven o'clock, turns the water back into the ditch and it is one o'clock before the next one takes it, wouldn't that account for some of thise things?

A Yes, that could.

Q At the same place?

A There is one condition on August 20th where that just goes to a point for a very few minutes, possibly ten minutes, and back.

Q That could be account for --

A But the general line show the variations dropping from the greater discharge to the less discharge for a number of hours and

then back to the greater discharge again.

Q So that if a man did not take his water when it was allotted to him, then an hour or two afterwards did take it, that would account for it, wouldn't it?

A That would account for some.

Q How would you account for the rest?

A The low drop I would say either were two streams taken out or greater quantity, or probably the same man had taken a greater quantity during his same period of irrigation or less quantity.

Q Nearly every one of them tk take his water out at a different place on the canal, doesn't he?

A Yes.

REDIRECT EXAMINATION By Mr. Robinson.

Q Would it be feasible to separate the Faucett fitch people from the upper East Union Canal Company and have a separate decree as to their rights?

A Yes.

MR JOHN E. BOOTH: They have that in the Morse decree. Just one other question. As you understand it from your experience and observation and testimony, the Faucett Field was occupied and cultivated long before the waters of the East Union Canal were taken out?

A I understand that is the case.

RECROSS EXAMINATION By Mr. Thurman.

Q Is this fluctuation existing in part or at all in different hours of the day as to the regularity?

A No, it is irregular.

Q When is the least quantity, morning, evening, noon, or what?

A Generally the least quantity is between seven o'clock in the morning and about eight o'clock in the evening, the daylight.

REDIRECT EXAMINATION By Mr. Robinson.

Q Isn't it a fact these Faucett -- these people that take under the Faucett ditch are practically unrestricted, one of them can take it, or two, or they can take as much water --

A Yes, the trouble with the Faucett field is they have no gates or measuring devices of any kind. It is merely a take and guess at what they take.

Q They just go and help themselves?

A Yes.

Q What is your idea should be done as to that matter?

A There should be gates in there, both in the canal and gates in the laterals from the canal, that could be rated so that the same quantity of water, the proper quantity of water could be diverted at all times.

RECROSS EXAMINATION By Mr. Thomas.

Q Are there any fluctuations in the City creek due to the Telluride Power Company, just at the point where the Upper East Union takes its water out of City creek?

A Yes.

Q Then those fluctuations, if any there are, are borne entirely by City creek?

A Practically, yes.

Q Your judgment, shouldn't those fluctuations be equalized so that the Upper East Union should bear its proportion of the fluctuation as well as the other users out of City creek?

A Yes, that would be better if it could be arranged.

Q Isn't that a mere matter of mechanical construction to install such devices as will equalize those fluctuations?

A Yes, that could be done.

Q And in your judgment it should be done?

A Yes, the shock, whatever shock there is, should be distributed over as large an area as possible in order to reduce the effect.

Q Would it be possible to have those fluctuations-- withdraw that

question -- in what way in your judgment would it be possible to minimize those fluctuations?

A I have answered that before. Of course a change of load at the plant as long as the governors are on, why, the governors will take up that load and discharge different quantities of water from hour to hour.

Q That is right, you did go into that question before, I overlooked that, have you any suggestions to make by way of installation of a mechanical device in the intake of the Upper East Union out of the City creek?

A yes, that could be arranged, in order to make those draw -- rather draw on a proportion basis than on constant head to the Upper East Union.

Q That in your judgment would be more fair?

A Yes.

Q To all the water users?

A Yes.

RECROSS EXAMINATION By Mr. John E. Booth.

Q You, as water commissioner, did you ever find a time when the Faucett field people were using more than was awarded to them by the Morse decree?

A I don't recall just at this time any particular date. I have found a number of times when we had a supply in for the Faucett field and the Upper East Union, at the Upper East Union station we were short, and I found, I think, on two or three occasions where there was more than one stream being used by the Faucett field, when they were only supposed to be using just one.

Q That was a matter of mere regulation then?

A Yes.

MR. ROBINSON: This Exhibit may be admitted?

THE COURT: Yes.

T. H. CLUFF, called by the defendant Upper East Union Canal Company, being first duly sworn, testifies as follows:

DIRECT EXAMINATION By Mr. Robinson.

Q What is your name?

A T. H. Cluff.

Q What official position do you hold in the Upper East Union Canal Company?

A President of the Board.

Q What are yourinstructions as a board to your water master relative to the moss which accumulates in the canal during the summer?

A Two of the members of the board are called and appointed by the balance of the board to be an advisory committee for the watermaster and aid him, for him to apply to.

MR. THOMAS Just a moment, what is the purpose of this examination.

MR. ROBINSON: It is rebuttal to show the condition of the canal in regard to moss.

MR. THOMAS: Has there any question arisen whether you have not cleaned the canal?

MR. ROBINSON: Yes, there is, just as against the plaintiff.

Q This advisory committee is for the purpose of aiding the water-master, and he, through them, is advised at all times to go on and clean the canal whenever it should be needed, or to do any-thing else that in his observation is for the best interests of the canal, but if he gets in a condition he is unable to look after that alone, he falls back on to this committee to come to his aid, so that if there were any head gates or moss or any other thing of any nature that is a detriment to the canal, and he is unable to look after that, then he applies to this advisory committee to help him out. At our last stockholders' meeting the board was authorized to make xxx repairs or renew any gate or gates, entire length of the nine miles of the canal, and

if they could not be made satisfactory otherwise to put in steel gates with cement abutments so that it would be in a first class condition.

MR. ROBINSON: That is all the evidence.

OMISSION.

Discussion as to Wasatch County stipulation and as to further order of procedure.

12:00 Noon, Recess to 10:00 A.M., April 12, 1917.

MR. STORY; There is one matter, your honor that I should like to bring up before any other proceedings. That is, that I have been requested by the attorneys for the plaintiff to furnish certain additional evidence in the way of charts and so forth, showing power consumption which the plaintiff desire to introduce in their case in connection with the Utah power & Light Company. I have not produced the evidence and I wish to state briefly my reasons for not doing so. The plaintiffs closed their case in rebuttal at the time we had the hearing, and practically all the testimony was introduced. I introduced certain evidence in surrebuttal. That evidence consisted of the report of the State Engineer, or rather, certain information that was included in that report, and inasmuch as the plaintiff objected to the introduction of the report itself, put Mr. Tanner on the stand and brought the evidence out in that manner. As I say, that was after they had closed their case in rebuttal. I had understood when we closed that evening that the plaintiffs had also closed so far as examination of Mr. Tanner was concerned, but later I learned that they took the view they still had the right to cross examine him with reference to that report, inasmuch as I had made him my witness for that purpose. The next time that I had a hearing here and I was present the plaintiffs advised that they expected to introduce further evidence on the part of Mr. Tanner, saying they had not closed their examination of him in connection with this report. I was obliged to leave before they got to that examination, but instead of examining Mr. Tanner on that report, as I understood they were going to, and they claimed they had a right to do, they introduced a lot of entirely different extraneous testimony. I felt that was very unfair. I want to say to both the court and counsel I

thought that was very unfair to put that testimony in in my absence or attempt to do it. Nevertheless it went in and we were obliged to arrange for other parties to cross examine the witness at a latter date; and then again closed their case. Now, I think there should be an end, we should know where we stand, and I have therefore taken the position that having closed their case if they get im any further testimony they must make an application to reopen and get permission of the court so to do, and get this testimony they want in the regular manner. I think that my action throughout the trial of this case has indicated-- I hope it has at least-- my willingness to be entirely courteous to counsel at all times, and to furnish testimony without necessity of suppoena duces tecum, but under the circumstances in view of the manner that the testimony has gone in here after the case has been closed without any notice to me it is going to be done, I think it is time to call a halt from my point of view, and that is the explanation I wish to make this morning as to my refusal to produce further testimony. If they are going to get any further testimony in, so far as the Utah power & Light Company is concerned, I shall insist the case be reopened and they get it in in the regular manner.

MR. A. C. HATCH: If the court please, my recollection of the matter is when they put the witness on the stand, Mr. Swendsen, the introduced certain -- some five different records of peak loads at their plant. We, at that time asked for a record of all the peak loads, and particularly the peak load covering the date of our measurements to which we had testified, and that is what we are now asking for, and we have been asking for it since long before we closed, and we were promised on different occasions, If I remember right, that search would be made and they would be furnished to us if it could be done, but that it would require a searching through large volumes of files in their offices, and would take time. The notice served

upon Mr. Story was to furnish us with this data, data showing the leak loads of their plant on the dates when the measurements were made of the water flowing in the flume by Wentz, by Tanner, and by one or two others. Now, I think we are entitled to it. We asked for it at the time Mr. Swendson testified. We asked for it, if I remember rightly, at the time the testimony was given as to peak loads in the first instance, and the excuse has been from the beginning that they could not put their hands upon them, but thatiit would require search. Now at the last adjournment of this court we made a second or third written demand that they furnish us with this particular data, and we are entitled to it. We think we have been entitled to it from the time they introduced the testimony as to peak loads at all, and that it should go into the record in this case as part of the cross examination of their witnesses, showing the power they produced on the days that their flume carried a certain quantity of water, and then we have shown the amount of water necessary to produce certain power in that flume, and we think we are entitled to the testimony, and we asked for it before we closed our case, and we have been asking for it ever since, with the understanding that we would eventually get it, I may be mistaken.

MR. STORY: I said we would look the matter up. As a matter of fact, the request now is for a good deal of more testimony than they have asked for before.

MR. A. C. HATCH: Just five days.

MR. STORY: This letter is a good deal broader than that. The point is this. They did close their case, and I think we should have an understanding right now how many times this case is going to be reopened. When the case is closed and counsel go home, they have reason to expect the case will not be opened up in their absence and further testimony introduced, and I am simply taking advantage of this opportunity to say frank-

ly to counsel I think their former action was entirely unfair in introducing testimony under those conditions, and in the second place to have a definite understanding now whether this case is going to be reopened up, and to what extent it is going to be reopened up.

MR. A. C. HATCH: If the court will permit, during the trial of the case a counsel whose client is interested should be present at the trial of the case, unless a statement is made stating nothing would be introduced touching his client's interest during his absence. It is not our fault Mr. Story absented himself from the trial of the case at different times, and when we closed our case we closed it with the understanding we would have the right to introduce this when we got it. The court will remember that that has been the reservation all the time. We have been expecting it, and we think that it will show conclusively that they never did need the water that they claimed, even their highest peak loads on the dates when we measured, didn't require all the water that was then flowing in the flume, that the water was spilling over the spillway at the time, and we believe that, and that is the reason we want the data, and with the data we can conclusively, as we expect the right to show, and have reserved it, as I understand it when this evidence was introduced. If it is not produced-- we have assumed up to the present time it was because they could not find it, or could not produce it. Mr. Story now seems to admit --

MR. STORY: I don't admit.

MR. A. C. HATCH: That he has it in his possession, but does not produce it because he don't think we have the right.

MR. STORY: No, I have not admitted anything of the kind, and don't want the court to get such an inference. As I told you before, it will take quite a long while to get that record together. I will say to you frankly, after the treatment you accorded us in that matter I didn't feel under any obligation

to go ahead and make that search. Now, Judge Hatch speaks of their not being responsible for my absenting myself from this court. That is true, so long as the hearing on the matter in which I was involved was open, but after they have closed their case I have reason to believe they are not going to introduce further testimony in my absence without notifying me of their intention so to do.

MR. THURMAN: When do you claim we closed our case?

MR. STORY: I claim the record will show you closed your case in rebuttal before I introduced the state record, and the only thing you claimed to go further after I closed my surrebuttal was after my examination of Mr. Tanner.

MR. THURMAN: I think after what you call closing our case I served notice on you sitting right there, and you said it would take some time, you would have to go through some fourteen or fifteen hundred cards, and it would take time, after what you now say was the closing of our case, so you did not seem to understand at that time that we had closed our case, and for that reason you would not furnish it.

MR. STORY: Judge Thurman, I had no different understanding then from what I have now as to whether you had closed your case. The only thing you said you expected to introduce at that time was the testimony with reference to the State Engineer's report, and I went away with that understanding. You had asked me to produce this other testimony, and I am frank to say I had expected to do it as a matter of courtesy, but when the other testimony was introduced without any notice to me I felt I was absolved from all obligation in that respect. If the court wants to reopen the case and let this testimony in and go further into the details of this case, I will gx do the best I can, of course, under the court's order.

MR. A. C. HATCH: If the court will permit me, we don't like to go into all the details of this case, or any matter ex-

cept that which we have preserved, as I understand, the right to go into. So far as any unfair treatment of Mr. Story is concerned, there was some thirty or forty attorneys here and certain matters come up every day in which his client is liable to be interested; if he cares to absent himself from the court and take those chances, I don't feel personally I have done anything wrong, and I haven't any apology to make. When I do I am always very humble. I understood during all the time he was absent Mr. Ray was representing him.

MR. STORY: Mr. Ray was not all the time. Afterwards he very ably represented him.

MR. A. C. HATCH: To cross examine some witnesses.

MR. STORY: Yes.

MR. A. C. HATCH: I understood Mr. Story had to be absent, and I don't understand we have in any way been discourteous, or disrespectly, or anything that would tend to injure Mr. Story or his client. If we have and he wants to remedy it, we are willing to consent now that he has that opportunity.

MR. STORY: I don't think we have suffered any damage. Mr. Ray cross examined the witnesses, and probably very much better than I could have done, as far as that is concerned, but I felt it is the time to know where we are at.

MR. A. C. HATCH: I will tell you where I feel that we are at, that they have been trying to avads giving us the facts that were necessary to establish what their rights were, and the water that they actually necessarily used in that plant. We have been trying from the beginning to obtain that evidence, and I think they have it and could produce it with a little effort on their part, but they did not seem inclined to do it, and now he stands on what he claims is a technical right. We insist he produce those five or six dates of leak loads, and if necessary that we serve them with a subpoena, but in open court

we demanded it, seemed to be willing to do it and didn't think that was necessary.

THE COURT: Now, is there some application to be made to the court in relation to this matter. I don't understand there has been any application made as yet. I understood Mr. Story was merely putting in the record his reasons for declining to comply with the requests that you had made.

MR. A. C. HATCH: We wish to make an application that Mr. Story be required to produce the data that we have requested of him from almost the beginning of the trial of the matters pertaining to the right of the Telluride Power Company.

MR. STORY: Pardon me, Utah Power & Light Company.

MR. A. C. HATCH: Utah Power & Light Company, and in a few moments I will have a copy of the letter requesting him. I have sent to the office for it.

MR. STORY: I think I have the original here now. I insist if it is going to be produced at all it should be upon application to reopen and application to be limited to specific testimony desired, so that we will have an end of this controversy, if the court allows any further testimony at all. In other words, want to know just how far we are going.

THE COURT: Mr. Story, the court is here today for the purpose of hearing testimony, the case has not been closed, I understand at all, it is open, does not need to be reopened.

MR. STORY: I mean so far as the controversy between the plaintiff and Utah power & Light Company.

THE COURT: My method of trying these water cases that I have tried has been not to adhere to the strict rule with reference to the introduction of evidence and the order in which it should be introduced, and usually we permitted parties to introduce evidence as long as they had any and as long as they could discover any, in order that the court might have the benefit of all the evidence that was available, and these cases usually

are conducted more in the nature of an inquisition than in the nature of a trial of an ordinary action at law or suit in equity, and if it is necessary there be any order for the re-opening the court will make the order reopening, if there is any evidence that is material and will assist the court in ariving at a just conclusion in the case. I don't understand, however, there is any application to the court based upon anything the court can recognize at this time to make an order. Is there, Judge Hatch?

MR. STORY: Your Honor, I don't wish to give the impression I want to stand upon technicalities to the extent of requiring duces tecum or anything of that kind, but I would like to know, and am taking advantage of this opportunity to learn if possible, just how far we are going in the matter, how much more testimony the plaintiffs are going to introduce in this case, so that we may be able to govern ourselves accordingly. If the court desires to let them reopen their case insofar as the Utah Power & Light Company is concerned to introduce this specific testimony, I don't insist upon a duces tecum. If I can obtain the testimony of course I will obtain it, but I would like to have it definitely understood what testimony is going to be introduced if the case is reopened.

THE COURT: Mr. Hatch, can you give Mr. Story the information he asks for in that respect?

MR. A. C. HATCH: Yes sir, we intended upon showing the peaks loads they had on these days to introduce testimony showing the quantity of water necessary to produce under the testimony or in the case, at least, the greatest load they had on the particular day, and that the measurement of the water in the flume as testified to by the several witnesses was more than sufficient for their use on those days, and that ~~want~~ water was some fifty to one hundred feet less than they claimed they measured flowing in their flume at the time the measurement was

made by Mr. Swendsen and some of their engineers. They are here claiming the capacity of their flume with the side boards on in order to get it full at a particular point. We are claiming they are entitled only to the water necessary to produce the heaviest loads they have produced during they time they have run at least, sufficient to produce that under their present system, and anything in excess of that, regardless of whether they run it in their flume or not, has not been appropriated.

MR. STORY: We furnished the evidence, your Honor, at their request of the maximum load it would carry from 1913 up to 1916, and reason for not carrying a heavier load at that time, has all been gone into in the evidence. Now, they have asked for the amount of power that was consumed as shown by the chart on the days that Mr. Wentz and Mr. Tanner happened to make their specific measurement of the amount of water running in the flume. Personally I don't see what bearing that has on the question of the maximum load. We have given them the evidence of the maximum load.

THE COURT: The effect of the evidence and weight the court should give to it would be a matter of argument, but the only question now, I suppose, to be considered, was what evidence now they want to introduce. Is this evidence you have asked Mr. Story to furnish all you want to introduce?

MR. A. C. HATCH: We want to introduce that and when we have it to introduce by competant enginners testimony to show the quantity of water necessary to produce those loads.

THE COURT: I understood you to say that was in the record now.

MR. A. C. HATCH: We cannot get it until we know what their peak load was. We have given the testimony in regard to the flow of water in their flume at all the time we have and record of its being measured.

MR. STORY: Yes, but the point is this, mere fact we

were using a certain amount of power at any particular day does not necessarily limit our power for the three years to this particular measurement. We have given you the maximum amount of power produced during that period and I think you gave testimony as to the amount of water necessary to produce that maximum amount of power. Now, I suppose we could go indefinitely and bring in the chart for every day of the three years and give testimony how much water it took to produce that particular amount of power any particular hour, or any particular day. That does not limit the right, and it seems to me wholly irrelevant and immaterial certainly. From what I understand now from Judge Hatch, they want to go into vastly more evidence than what they had originally talked about, conceding you said you had the right to introduce these particular power loads.

MR. A. C. HATCH: As I understand the evidence we have not a measurement of the flume at any time when they claim to have given us the maximum peak load. What we want is a measurement of the water flowing in the flume at some time when they had a maximum peak load. All the maximum peak loads they have given us were on dates when we have no measurement of the water in the flume, and if we can't combine those two, we think it would give some little light at least it would to me, and I think it would to the court, as to whether or not, if they had these maximum peak loads, whether their flume would carry sufficient water to give the peak loads ~~thms~~ that they claim.

MR. STORY: Am I not correct, your Honor, in saying that was gone into very fully in the evidence of both the parties as to what the power consumption of the plant was and what amount of water it took to produce the power in that plant, the efficiency of the plant, the efficiency of the wheel and everything of that kind was gone into by both the plaintiff and defendant, Utah Power & Light Company very fully; what was the proper efficiency to be given to those wheels and amount of water

it took to produce energy of horse power in that plant. Now then, they have their maximum amount of power produced, and, according to their own statement they want to put on further evidence to show how much water it takes to produce a lessor amount of power. The testimony is already in how much water it took to produce the maximum amount of power we say we used during those three years. What is the object going into that testimony?

MR. A. C. HATCH: Our letter is dated Provo, Utah, March 12, 1917. Messrs. Story & Steigmeyer. Gentlemen: On January 8th we demanded that you furnish us the data as to the power output on the following days, namely: 1911, July 26th; 1913, June 14, July 5, August 7, October 20 and October 22; 1914, November 27, May 9, July 20, July 27, August 25, October 19 and October 22, November 6, November 9, November 10; 1915, February 16, April 9, May 8, May 14, June 3, July 9, July 22, September 25; 1916, January 8, January 17, January 21, April 27, May 16, May 22, May 25, June 13, June 14, September 9, October 9, October 13 and October 21.

These are the dates when measurements were made by Mr. Wentz and Tanner and engineers of the Utah Power & Light Company of the volume of flow of water in the flume of the Utah Power & Light Company. Up to the present time we have not received this data, and we now therefore request that you give us this information at the earliest date possible, so that we may present such matter as we have in rebuttal to the court at its next session, beginning the 12th. Respectfully yours, Signed by myself as one of the counsel.

MR. STORY: Will you pardon a question.

MR. A. C. HATCH: Just a moment. This data, as I understand, is asked as to the days when measurements were made and when there was ample water to fill their flume to capacity, and to have furnished all that was necessary for all of the users

below, particularly during the months of June, and the latter part of May, and we asked for that before as to certain measurements, but on the 8th in open court we asked for it, and we had not then closed our case as against the Utah Power & Light Company and I don't understand that we ever have closed it.

Now, we ask at this time that the court make an order requiring the attorneys for the defendant to furnish us this data if they have it.

MR. STORY: Judge Hatch, in the first place, as a matter of fact, your original request covered only the days Mr. Wentz and Mr. Tanner had made their measurements, it did not contemplate these others, and when you got up that letter you simply went through all the testimony and measurements that had been made, or assumed to be made by everybody, and asked for the charts of those days. At the present time it is vastly wider than it ever was before.

MR. A. C. HATCH: Will you now say you have given us the peak loads in your testimony for any date when a measurement was made by any engineer of the volume of water in the flume?

MR. STORY: I don't know I can answer that in the affirmative.

MR. A. C. HATCH: That is why we want this.

MR. STORY: I can say to you we have given you the maximum load carried through those three years, and also the reason why we did not carry a larger.

MR. A. C. HATCH: Not for every day during the three years?

MR. STORY: No, we gave you the maximum.

MR. A. C. HATCH: As I understand it, we haven't the maximum load for any date when a measurement was made of the water flowing in the flume. That is, we haven't it in the record, and we would like to have the maximum load for all the days when measurements of the flow of water in the flume were made.

I don,t understand that we ever closed our case as against the Utah power & Light Company except with the understanding that we would have this data or certain portions of it later.

THE COURT: Mr. Story, when could you get this information.

MR. STORY: I don't know, your Honor, I will endeavor to get it as quickly as possible, if the court reopens the case for that purpose.

THE COURT: The case may be reopened.

MR. STORY: And may I know now what testimony we are going to have further in the case.

THE COURT: As I understood the statement of Judge Hatch, and I will give my understanding so that I may be corrected if I haven't the correct understanding, is they expect to introduce, or offer rather, the evidence with relation to the peak loads upon the days mentioned in this letter and then introduce evidence of a competent engineer to show the quantity of water necessary to produce that amount of power.

MR. STORY: Is that going to be the limit of the testimony?

MR. A. C. HATCH: Yes, with such evidence as is required of the irrigators.

THE COURT: With what?

MR. A. C. HATCH: With such use as is required of the irrigators throughout this state in their use of the water, proper dams, preservation to prevent leakage, and proper wheels for producing the power. Now, we are going to insist and warn Mr. Story now that people who run a 65 per cent wheel, that is a wheel with 65 per cent efficiency cannot continue to do so and waste water as they appear to have been doing in the State of Utah and allow the state to be developed. We insist upon the irrigator putting in concrete pipes tight dams and preserving every drop of the water that can be preserved, and are going to

insist upon the power companies using at least the same effort to conserve the use of the water that we require of the farmers.

THE COURT: I might ask, Judge Hatch, so that I may know, what evid-ence do you expect to introduce on that subject?

MR. A. C. HATCH: Nothing at all.

THE COURT: The court did not ask for an argument what you will insist upon or contend, but merely to know what evidence you expect to offer. Did I correctly state the evidence you expected to offer, Judge Hatch?

MR. A. C. HATCH: If the court please, when we know these peak loads, we expect to put on a competent engineer to show the quantity of water necessary to have produced these peak loads with proper machinery for producing the power.

THE COURT: That is as I stated it, that will be included in it. When could this be produced, Mr. Story?

MR. STORY: I dnn't know your Honor, I am sorry I cannot give a definite answer, I will give instructions immediately to those in charge of the records to make a search for them. As I told Judge Hatch, I think as I said to the court, there are some fourteen or fifteen hundred records that have not been carefully preserved, great many of them there, I think good many have been lost. We may be able to get those records for every day, on the other hand we may not. It will require some time to search them out. They have never been filed in their regular order. We will get it as soon as we can. When does the court desire to take this up?

THE COURT: I desire to take it up at the earliest date you can furnish it.

MR. STORY: I am sorry I cannot give your Honor that information. I should be glad to do it if I could. Now I understand that there has been a suggestion that the argument in this case would be held at Salt Lake next week.

THE COURT: No, it would not be nextWeek if this

evidence is going to come in.

MR. STORY: How long will it take you to introduce this evidence?

MR. A. C. HATCH: I think we can do our part in a day very nicely, only a question of when we can-- if we can put the engineer on to testify to an exhibit, I think it will take half a day.

MR. STORY: As a matter of fact, the court could hear that testimony in Salt Lake. I could furnish what records we have prior to that time, or just as soon as possible, and they would then have the advantage of having them before them, and working them up with their engineers, what the amount of water.

MR. THURMAN: Prior to what time?

MR. STORY: I will get them just as soon as I can. I will have men start today.

THE COURT: I can hear the argument any time, so far as I know, except week after next. Of course, we don't know about that until we see about these other matters.

MR. STORY: Could we have it understood this testimony, will it be introduced at that time?

MR. THURMAN: What time?

MR. STORY: Whenever the argument is had, and I will get this to you within the next few days, as fast as we can.

OMISSION.

Discussion as to time of argument.

Discussion as to Wasatch county stipulation.

Testimony as to claim of Wasatch Irrigation Company.

MR. MCDONALD: I would like to inquire of counsel for the plaintiff in the way of saving time, if it would be agreeable to them to have the decree in this case provide that the commissioner should investigate the losses and charge the respective losses to the respective parties, the reservoir water?

MR. A. C. HATCH: No, it would not. We have two or three years now to investigate this matter, and we have put in our proof as to the matter and we would like a decree. We don't want the thing to extend over another period and we have had all these years to determine this and we put in our proof as to the matter.

MR. MCDONALD: There is no use of further talk, we simply ask if you consent to it.

JOHN H. CLEGG called by the defendant Wasatch Irrigation Company, being duly sworn, testifies as follows:

DIRECT EXAMINATION By Mr. McDonald.

Q Mr. Clegg, are you acquainted with the Provo River system, that is, from the Wasatch dam up?

MR. JACOB EVANS: Before you ask that question, I move to strike out all the evidence given by this witness up to this point, as being immaterial, irrelevant and incompetent under the stipulations in this case as to the capacity of the canal.

MR. MCDONALD: We don't object.

THE COURT: It may go out then.

A Why, partly, not very good.

Q Do you know about how far it is from the reservoir to what is o called Stewart's ranch?

A I think it would be about twenty-five miles the way the river runs.

Q Is there anybody uses water for irrigation purposes from the

river or its tributaries between the reservoir spoken of and the Stewart Ranch?

A There is one place where Stewart takes a little high water.

Q I am speaking down to Stewart's.

A This is up on Boulder , at the upper end of Stewart's, about three miles, I should judge, or more from Stewart's ranch, where it goes into the South Fork.

Q Then we will confine this inquiry to that point, that is the upper point of the Stewart ranch. Now, is there anybody else that uses water between the reservoirs and the point you have spoken of ?

A Not that I know of.

Q Could a weir be placed at this point that you designate on the upper part of the Stewart ranch for the purpose of measuring the water from the reservoirs?

A Yes, there could be one put there all right.

Q And there would be no interference with the water so far as you know by persons diverting any water between the two points designated? A. No.

Q And in that way could the amount of loss be determined?

A I think so.

Q Now, you say that you are acquainted with the system to some extent, have you been watermaster for some years?

A Yes sir.

Q For what company?

A The Wasatch.

Q Wasatch Irrigation Company? A Yes sir.

Q How long?

A For the last three years.

Q Were you acquainted with the distribution of water to the canal prior to that? A. Yes sir.

Q How long?

A Oh, off and on for the last twenty years, not permanently.

Q Now, Mr. Clegg, have you made any investigation as to the quantity

of loss or amount of water which goes down from the reservoirs to the Wasatch dam after the reservoir water is turned out?

A Yes sir.

Q What has been the result of your investigation?

MR. JACOB EVANS: Object to that, the witness has not shown himself competent to testify. This seems to be a question directed to an expert witness. He may testify what he has done, but as to the result, I think it calls for the opinion of the witness.

THE COURT: I don't think it calls for the opinion of the witness, it calls for a statement of some fact what results he has seen.

MR. JACOB EVANS: The question was asking him what was the result.

MR. RAY: No, what investigation have you made.

MR. JACOB EVANS: And what was the result of that investigation?

THE COURT: He may state that.

MR. JACOB EVANS: We take an exception.

A The result has been, I have been watermaster and there has been so much water turned from the reservoir. I generally go up the night before and mark the flume. I used to mark it with a nail to see how much the increase was when this water come down, and when the reservoir is supposed to be down. I find by investigating and comparison there ain't over a foot reaches our dam, they say is turned out. I believe they have turned it out before anything reaches our dam.

Q You may state whether or not the Wasatch Irrigation Company has a tight dam across the river.

A Yes sir, have a tight dam with the exception of some we have to let go to Midway of the tunnel water.

Q Have you any means of measuring that?

A No, not exactly, it is measured every year, but we don't have no weir there.

Q Is that turned down the river bed proper?

A Yes, that goes down the river bed proper.

Q With the exception of that water that goes to Midway during the normal flow of the river, who uses the water of the Provo river?

A The Wasatch and North Field uses the normal flow.

Q All of it? A. Yes.

Q And--

A All that goes to our dam.

Q What has been the custom of the plaintiff relative to taking the water after they reported to you they had turned some in?

A Sometimes they have taken the full amount, and sometimes when I objected they have not, they have turned it loose.

Q Have you made more than one investigation to determine how much water came down?

A Yes, I have made observations every time it has come down.

Q For how many years back?

A Last three years.

Q And what, from your investigation, did you find?

A I found that in my best judgment there would be from twenty-five to fifty per cent of the water never get to our dam at all.

Q Have you made any investigation as to when the water was turned off from the reservoir? A. Yes.

Q And from your investigation what did you learn as to the condition of the water down at your dam.

A Well, it didn't make as much difference as what they turned off. That is, if there was twenty feet turned off up there I would not notice that much difference down there. There would not be ten feet short to our place.

Q How far is it from the Stewart point you speak of down to your Wasatch dam?

A I don't know exactly, I would judge it is about twenty-five miles maybe a little more.

Q What is the condition of the channel from the reservoirs down to the Stewart point?

A Why, it is a rough, rocky channel, some places it spreads out and circles, other places it is narrow, but it is rocky all the way, very rocky.

Q What is the condition of the channel from the Stewart point down?

A After you strike the South Fork, I think it is better, it is very fine, better channel.

Q More soil in it than above?

A Well, it is rocky all the way. There is more soil on the sides though.

Q You may state whether or not the Wasatch Irrigation Company is interested in these reservoirs?

A Yes sir.

Q And you may state from the investigations you have made whether this water comes down?

A I don't think it does, more than half.

Q How much do you say, how much loss is there?

A Our dam?

Q Yes.

A I think there is from 25 to 50 per cent that never gets to our dam. That is the way I have estimated right along when it has been turned down.

Q How much period of time does that require?

A It covers all the time the reservoir water is coming, all the time ours is running, Provo Reservoir has the reservoir water longer than we do.

Q Now, you may state whether or not when the plaintiff takes out the their water at the Wasatch dam, whether your quantity is immediately diminished?

A It is diminished all the time, every time.

Q Now, you are acquainted in Wasatch and Summit counties with the distribution of water from the Provo river, are you?

A Why, some little, not thoroughly.

Q Well, you have known the river system, haven't you, for thirty

or forty years?

A Yes, I have been up and down it many times.

Q And know the water and the way it has been distributed?

A Yes.

Q Now up to the time this suit was commenced you may state what cost you had in the distribution of water?

A From our dam, do you mean?

Q Yes, from the Wasatch dam?

A We had about-- for the three companies we had about, I think, about fifty or sixty dollars a year.

Q That is all of you together.

A All together.

Q That covered all expense of the distribution?

A Yes, that is for the commissioners, we have watermasters on the side.

Q What has been your cost since that time, since the filing of this suit for the commissioner who has served?

A For all the companies, I think it is about six hundred dollars. a year.

Q Now, from your knowledge of the distribution of water of the river system, would the interests of the people in Wasatch and Summit Counties be subserved by a division of the district?

A How do you mean?

Q Well, have a dividing line somewhere between Utah county and Wasatch and Summit counties, have a commissioner for one end and commissioner for the other?

A Making two districts?

Q I will get it at in a different way, about what is the length of the irrigation season in Wasatch county?

A About four months.

Q About four months? A. Yes.

Q About when does it start?

A Generally start about the first of May.

Q When do you conclude?

A About the last of September.

MR. THURMAN: Five months.

A I guess it would be five months, we don't always water all our tract to the last of September. About the tenth and use water for pasture and beets and fall plowing.

Q What part of that time do you need a commissioner in Wasatch and Summit counties?

A If it is like it has been in the past, about three months we would need one.

Q Three months? A Yes.

Q Would it be better in your judgment to have a commissioner appointed by the court or one apointed by the people of those two counties?

A I don't hardly know, I believe it would be better by the people after we get it settled once.

Q What do you mean by settled?

A After a decree is given so that we will understand what we are entitled to. I believe then the people could handle it all right.

Q And select a commissioner for such period as they saw fit?

A Yes.

CROSS EXAMINATION BY Mr. A. C. Hatch.

Q At the time when they first turned the water from the reservoirs into the river, the river is usually receding very rapidly?

A Yes sir.

Q Normally only? A. Yes.

Q And have you ever made any attempt to determine the amount or quantity that the river would recede per day during that period?

A Yes.

Q What was the quantity?

A I haven't made it out in feet, I have made it out in divisions, I have had nails drove along to see about.

Q Can you give us any idea of the cubic feet per second it would recede per day during the period when the reservoir was first

turned in?

A I have seen it fall, right at first, I have seenit fall at a rate for two or three days, twenty to fifty feet a day, but after the reservoir it goes right on. As quick as they are turned in, it don't fall, I don,t think, over five feet.

Q Do you have any knowlege whatever as to the fall of the river, the normal river during the period of time at which the reservoir water is first turned in, in feet per day?

A No, I could not tell you exactly in feet.

Q Would you say it would not amount to as much as ten or fifteen feet?

A I say it would when first turned in, more probably.

Q Would you say it would be as much as fifty feet?

A Just before it is turned in, I guess.

Q In making your calaculation have you allowed for a mmm normal fall of the river? A. Yes sir.

Q What did you allow?

A I allowed it, as I tell you, in measurements on that nail measure- there ain't much fall-- if the reservoir water, for instamce, comes down three or four o'clock in the morning, we measure it at night, and in the year through ain't much fall between that time. The water is lower at night, always little lower at night than it is in the morning.

Q What did you allow for the normal fall of the river;you say when you reported twenty feet turned down you only had ten feet additional at your dam?

A Yes.

Q Did you allow anything for a decrease in the normal flow of the river?

A Normal flow?

Q Yes.

A Well, we allowed somewheres about from three to five feet when it goes down to normal, there ain't but very little fall then.

Q You don't know but it might have been ten feet per day for that

period of time, do you ?

A Yes, I do.

Q How do you know it?

A By the comparison of the days.

Q Do you know whether or not the river losses as much in coming down as the reservoirs do?

A No, I don't know anything about that.

Q Don't know whether there is any loss in the natural flow of the river in its flow down or not?

A No.

Q But at the time the reservoirs are first, water is first turned out from them, who turns it out first?

A The Timpanogos has been turning it out.

Q Then you company follows?

A Our company then sometimes.

Q About how long afterwards?

A Generally about two days in the past, just as quick as the Timpanogos takes the water we are right down, take it out of our canal and we have to follow within two days.

Q So that the loss is between you and the Timpanogos Company in the first fall?

A In the first, yes.

Q How do you divide that loss up, or don't you divide? it?

A We don't divide it, they just take the loss and water too, that is where we are losing out.

Q You do without?

A Yes, it takes it out of our canal when they take it.

Q How do you tell how much of the natural flow of the river is taken by either you or the Timpanogos Canal Company when they have turned the first water in from the reservoir?

A I ain't got no record of that.

Q The river is receding and rededing very rapidly, isn't it?

A I just have a comparison of what is taken the day before and that is all.

Q Now take last year, how much did the river fall in second feet, if you know, the day before the water from the reservoirs reached your dam?

A I don't know exactly, I think it is on record here though, I don't remember.

Q Do you know whether or not a part of the reservoir water reached your dam the day before or the day following, or whether the whole flow reached you at one and the same time?

A We always have the biggest flush at the same time, within usually six hours after the first reservoir comes, reservoir water gt gets there. It is the biggest flush, then it dies out again.

Q The river is a constantly receding stream from the high water until September, isn't it?

A No, sometimes it begins to increase in August, depends on the rain and showers.

Q That is only temporary when it increases?

A It ain't temporary, it fills up the earth and it stays, sometimes it is the lowest in July.

Q You say you think that is losses twenty-five to fifty feet frmm the time it is turned out of the reservoir?

A Until it gets to our dam, yes, ain,t over that mugh gets there.

Q Tell us why you think that,

A Because, as I have told you, the water don,t get there.

Q Do you know whether it is diverted above?

A No.

Q By any of the many users?

A No, that is something I don't know.

Q Do you know whether or not the quantity is turned that is reported?

A No, I don't, but I believe it is because I am acquainted with the parties and am satisfied it is.

Q That they told you the truth? A. Yes.

Q And you have no knowledge whatever of the fall in cubic feet per day of the normal flow of the river during that period, have you?

A I can not, it is on record, I cannot remember it now.

Q You haven't any knowledgeof it of your own?

A Not this present time.

Q You never made any measurement of it?

A Yes, I have made measurements.

Q At any time? A. Yes.

Q How did you make the measurements?

A We have a weir and keep track of the daily river. Every time that goes up we have a record what the river drops.

Q What the normal flow was? A. Yes.

Q Have you any record of the fall of the flow in the normal river prior to the time the reservoir water was ever turned into it?

A No.

Q During this period of time?

A No, I don't think we have.

Q But you know it is a very rapid fall, don't you ?

A After the 20th of June, I will say to the first of July it drops right down, then it is pretty normal.

Q And it continues to drop from that on until the middle of August?

A Yes, sometimes.

Q Except there is a heavy rainstorm should come in the meantime?

A Drops a little.

Q But you don't have any idea at this time in cubic feet of the fall, do you?

A No.

Q Per day/? A. No.

Q Twenty-four hours? A. No.

Q Do you know how long it takes the water to run down from the reservoir to your dam when it is turned in?

A Takes about thirty-six hours.

Q Don't you know exactly the time?

A No, I don't think anyone knows to the minute, but that is what we figure on, thirty-six hours, maybe thirty-eight, maybe thirty-five.

Q You never have made any investigation to see whether the people

above continued their regular streams after the water was turned in from the reservoirs? A. No.

Q Or whether they cut down to their natural flow?

A No, I have not.

Q So that you don't as a matter of fact know whether there is any loss?

A I know there is a loss.

Q In the flow of water from the reservoirs down to your dam, do you?

A I know it don't get to our dam.

Q But you don't know whether it is being diverted and used by people above?

A No, I don't.

Q Now how long after you and the Timpanogos Company turned your reservoir water down the river before the plaintiff turned its water down?

A I don't know, the last year they didn't turn down, I don't think, until about the 22nd of August or 30th, but other years they have turned down I don't know but what the last of June.

Q Last year your company and the Timpanogos Company used all of your reservoir water, didn't you, during the entire year?

A No, we used a good deal of it. I would like to explain on that.

Q I wish you would.

A Well, about the 25th, I think, of August, somewheres along in there, Mr. Wentz -- the Provo Reservoir, I think, had turned out 55 second feet, and had about ten feet independent of the Midway water, that made about 65 passed our dam, and as I remember on record there was running 42 feet and we had ten feet of reservoir, that was 32 feet it left us of the normal river to water five thousand acres, and two days after it was down to twenty-five. I telephoned down to Mr. Wentz, I told him I couldn't stand that, with the normal river it ought to be more than that, and we were entited to more water. He said "How much

are you entitled to, John." I said "Fifty feet at least." He said "Make it up to fifty feet", which I did, and kept it there.

Q From the reservoir water of the plaintiff?

A Yes.

Q Plaintiff never made any complaint of it, did it, to you?

A No.

Q You say there was 55 feet of reservoir water turned out?

A Yes sir.

Q Receded in a few days to 25 feet at your dam?

A No, we only had that left. Ours went down from 32 to 25, he left us 32.

Q Your portion of the water?

A No. all told, North Field and the Wasatch combined. Last year was a normal year or a little more for us for good water. It went from 32 to 25, the normal river for use for five thousand acres.

Q And you had the reservoir in common also?

A We had ten feet in addition to this twenty-five feet.

Q How do you know what the normal river was?

A Just judging by the past, I didn't go up the river, I have been acquainted. I know that we were entitled to more than twenty-five feet of the normal river by comparison with the past.

Q Now, you say it cost the ~~xt~~ three companies about sixty dollars a year before this suit was commenced for diverting the water from the river into your several canals?

A Commissioner's services, yes sir .

Q The county paid the commissioner, did it not?

A Sometimes the county paid for some of it, not always, sometimes we paid for it.

Q So some years it didn't cost you anything?

A Some years it didn't cost us anything.

Q You say it has cost the three companies about six hundred dollars a year?

A

A Five companies what goes through that same system I have put into that, the Sage Brush have used some high water, and Spring creek.

Q And Midway?

A No, it is the North Field, Wasatch, Spring creek, Sage Brush and Upper Charleston goes through the same gate, that is what water they used.

Q And it has cost you something in addition to putting in dams, proper dams, has it not?

A Oh yes.

Q That is included in the six hundred dollars?

A No sir, Oh no.

Q How do you account for the water not receding when the reservoirs are shut off, you say there is twenty feet coming from the reserwoirs and they shut them off and your water does not recede more than ten feet; how do you account for that?

A I don't know ~~xk~~ without the waters spread out in there, and as the water recedes it goes on down, unless in some cases it might be rain. I have never demonstrated that, but it is a fact at the present time. I cannot account for it, but that ~~xx~~ is the way I find the condition.

Q The shutting of it off doesn't decrease your quantity more than half?

A Over half.

Q And the turning in doesn't increase your quantity more than half?

A No.

Q Can you account for either one?

A I can account for the first one, don't get to us, I don't know where it goes, but the last one, I don't hardly know how to account for it, without, as I say, it spreads out and comes back in again.

CROSS EXAMINATION By Mr. Thurman.

Q There is one thing I don't understand exactly; I want to ask a question or two. I would like you to explain again just how

you determined this loss in transmission. You measure the river at the time the reservoir water is turned in above?

A We measure the river just before we expect the reservoir water down.

Q And then after the reservoir water comes?

A After they take the reservoir out again.

Q Well now, you find when they say twenty feet turned in, only ten feet or a little more of it gets down to you?

A That is the way, yes. There has been exception of that, sometimes none gets down.

Q At what time?

MR. MCDONALD: What was that last answer?

A Sometimes, I say, we don't feel the effect any getting down. We are the last dam on that system.

Q Now, I take it that there is loss in the river water that comes down flowing in the same channel as well as the reservoir water, isn't there?

A I suppose so.

Q It is all commingled?

A Yes.

Q The truth is, you charge all of the loss that comes down to the reservoir, don't you?

A No.

Q Do you mean to say that the river between the point where the water is turned reservoir water is turned in and your dam, that the whole stream losses from twenty-five to fifty per cent that is turned in extra?

A I say it don't get to our dam, yes.

Q There is that much loss in that distance?

A Yes.

Q 25 to 50 per cent in the whole stream in the channel?

A Yes, the reservoir water.

Q No, no, I am talking about the whole stream, you cannot single out the reservoir water from the river water when it is all mingled

together.

MR. RAY: Your Honor please, I insist he can if he wants to . The reservoir, the loss in the normal river is the normal and without consideration here, the question is what is the loss in the added water.

MR. THURMAN: That is just what I am trying to get at, is his normal loss of the river. He has not given us that yet. I want to see how much of that loss may be charged up against the reservoir.

Q You are charging 25 to 50 per cent of loss to reservoir water, how much do you charge for river water?

A I don't know exactly, we are expecting so much so much water down, if they have told us they have turned twenty feet down we expect somewheres about that, and for that portion we don't get that I am charging up to the Provo Reservoir system.

Q Suppose now there is fifty feet in the river of natural flow?

A Yes.

Q At the time they turned it in?

A Yes sir.

Q And they turned in twenty feet.

A Yes.

Q Of the reservoir? A. Yes.

Q You have measured it out, or about the time you expect the reservoir water down then you measure it after, how much of that seventy feet do you find loss?

A I will explain that, if we had fifty feet there and if the river was dropping at the rate of one foot a day, that would be forty-nine feet. If they turned lose twenty feet up there instead of having forty-nine we have fifty nine feet. I think there is fifty per cent of that reservoir water didn't get to us.

Q Then there is all of the difference ten feet you charge up against the reservoir? A. Yes.

Q In that case? A. Yes sir.

Q One foot against the normal flow of the river?

A Yes, if that is the condition. Sometimes there ain't none, the normal flow is increasing a little, depends on the weather and conditions. If it is a rainy time the river may be raising when that water is put in, and have to take that into consideration.

Q Did you ever measure the natural flow of the river at a time when the reservoir water was not in?

A Yes.

Q To see what the loss would be during thirtysix hours?

A I have just answered that. We have kept a daily record of it. I go up sometimes every day, sometimes miss a couple days, being watermaster.

RECROSS EXAMINATION By Mr. A. C. Hatch;

Q There was a question in regard to the distribution of water with regard to the commissioners, how ould you have them elected if they were elected for Wasatch and Summit counties?

A How would we have them elected?

Q Yes.

A Well, I don't know, I have never --

Q At a general election or by thestockholders?

A Possbly the stockholders from the different companies.

Q You have tried that experiment heretofore, haven't you?

A No, I don,t know as we have.

Q When the commissioners was appointed, required to appoint commissioner for each county, you remember the time of that, don,t you ?

A When the county appointed them?

Q Yes. A. Yes.

Q And when one county would not appoint because of the expense?

A Yes.

Q And you had trouble all the time about the water and distribution of it during those periods, didn't you?

A I don,t know, I have never had no trouble myself.

Q Don,t you think the same trouble would arise with the appointment of two or three commissioners that formerly existed?

MR. MCDONALD: I object to that question on the ground it assumes they have had an experience, the witness has not so testified

MR. A. C. HATCH: Well, it is a matter of common knowledge in the community in which he lives. I don't know whether under the rule-- the court will understand the rule-- I don't know that the court should take judicial notice of those things that ought to be known in a community.

THE COURT: I understood Mr. Clegg to say in response to your question whether they have had any trouble, he said they had not had any trouble, and your next question was whether the same trouble would occur?

MR. A. C. HATCH: He said he never had any personal trouble.

Q Don,t you time and again the Wasatch Canal company having to send men up to Summit county to ask them to turn down water that the Wasatch people claimed belonged to them of right?

A Yes.

Q And that was during the period of time when these commissioners should have been acting under the county appointments, wasn't it?

A I don,t know whether that was always or not. I think we just sent the commissioners up when we had commissioners, I don't think we sent the citizens up.

Q Ed Clyde was neve r a commissioner, was he?

A I don,t think he was, only temporary.

Q Do you know of him going up?

MR. RAY: Your honor please, I object to that as incompetent, immaterial and irrelevant.

MR. A. C. HATCH: I think likely the whole subject matter was immaterial. If they are willing to strike out their questions--

THE COURT: I think it is proper cross examination of the evidence. My recollection now is Mr. Clegg declined to

exrpres his view upon what would be the best mehhod.

MR. JACOB EVANS: He suggested they ought to be appointed by the people.

THE COURT: I think he did say that, yes. This is proper cross examination, I think, of that statement.

Q Ed Clyde was never a commissioner, was he?

A I said I don't know.

Q Was Joseph R. Murdock ever a commissioner?

A Not that I know of.

Q You know of them having gone up in behalf of your company, Wasatch Irrigation Company, don't you? A. Yes

Q On different occasions?

A Yes.

Q And while this system of commissioners prevailed up there, don't you know that?

A No, I don't. As I said, I don't know those individuals that went up were the commissioners.

Q And because of Summit county refusing to act in the premises don't you know that was the reason?

A No, I don't. Summit county commissioner refused once or before, I think our commissioner dealt with it outside of the citizens.

Q Now, you said that when the plaintiff takes out its water at your dam your water is immediately diminished in quantity, what do you mean by that?

A I mean just what I say, just as quick as they take it out we lose a certain per cent.

Q What they take out?

A Biggest part of it , yes.

Q Prior to their taking it out you are losing it all?

A If we had twenty-five feet there when they take their's out, maybe cut us dawn to fifteen when the natrual drop of the river wouldn't be over a foot.

Q How do you know the river in its natural drop would only be a second foot in twenty four hours?

A I just know by observation.

Q Do you know it by observation?

A Yes.

Q Can you tell any one day in any year since you have been water-master when the natural drop of Provo river has not exceeded one foot in twenty-four hours other than when there was a raise by reason of a storm?

A When it ain't dropped more than a foot?

Q When it has not dropped more than a foot in twenty-four hours?

A Yes, I can tell, I can pick you out individual days.

Q What days?

A I would have to go to the record.

Q In what year?

A Every year, some mornings it would be higher and next night be down a foot.

CROSS EXAMINATION By Mr. Ray.

Q Mr. Clegg, I understand you figure it takes thirty-six hours for the water turned out of the reservoir to reach the Wasatch dam? A Yes sir.

Q You are notified when it is going to be turned out of the reservoirs? A. Yes sir.

Q And then before you expect it down you measure the river?

A Yes.

Q How many hours before you expect it there?

A If it comes in two or three o'clock in the morning we measure it in the evening, six or seven o'clock.

Q If it is to come in the afternoon when do you meaure it?

A We would measure it when it come and in the morning.

Q So that it would be just a short interval between the time of your measurement and observation of the increase?

A Yes, very short, there practically isn't much loss in that time.

RECROSS EXAMINATION by Mr. A. C. Hatch.

Q There is another question, in this deduction for loss from the reservoirs how do you divide it between yourself, Timpanogos and provo Reservoir Company.

MR. MCDONALD: Object to that as irrelevant and immaterial, not cross examination.

THE COURT: What is the object of it.

MR. A. C. HATCH: He has said that in turning the water down from the Reservoir Company from the reservoirs, there was a certain loss, 25 to 50 per cent. Each company is an owner, as shown by the evidence , and his testimony of the interest in these reservoirs, and his company and the Timpanogos Company turn the water into the river several days to two or three weeks before the plaintiff turns any water from the reservoir in for its use. The three of them, together with the Sego Company own the reservoirs.

THE COURT: I understand, objection is overruled.

MR. A. C. HATCH: I am asking him what proportion would he charge to each.

THE COURT: I see.

A I don't understand the question.

Q Each of the owners?

A The Timpanogos and Wasatch?

Q Yes.

A We just take the whole thing, don't belong to the Wasaton, I say we take just we turn out. That is what I am trying to get at, to adjust it, we don't want only what we are entitled to.

Q You take all?

A All we turn out.

Q And Timpanogos takes all they turn out?

A Just the same, we take it from the old users, I claim.

Q Then you are not testifying in behalf of yourself and your company, but in the interest of the other parties?

A I am interested in all the other parties, we are all the old

users. When we take it out from them we take it out of one pocket and put it into the other. The Wasatch and North Field own about 74 per cent of the natural flow of the river at the low season.

Q And it has been your custom since you commenced turning the water in from the reservoir to turn out for your use as reservoir water at the Wasatch dam the only quantity that you turn in from the reservoir?

A Since it has been in the hands of the court, not before, we did not.

Q How did you do it before?

A I think there was about 7 per cent something allowed, deducted a little.

Q Do you know how much it was?

A No, I don't; I think it was 7 per cent, what I think Jarvis told me, once figured out about 7 per cent.

Q You took seven?

A It was divided out that way, I think, but I am not sure.

T. F. WENTZ recalled by the defendant Provo Bench Canal and Irrigation Company, testifies as follows:

DIRECT EXAMINATION By Mr. Ray.

Q Have you made any observations as to losses in transit between the reservoirs of the plaintiff company and Wasatch dam?

A No, not detailed observations .

Q I don,t mean measurements, I mean any observations?

A Yes.

Q Have you observed the time which it takes for water leaving the reservoirs of the plaintiff to reach the Wasatch dam?

A Yes.

Q About how long?

A Thirty-six hours.

Q And from the Wasatch dam to the mouth of the Provo Canyon?

A Twenty-four hours.

Q What is the nature of the channel above the Wasatch dam.

A It is a -- some places it is wide, more or less irregular and rocky, the upper stretches are rather steep.

Q Above the level of the normal flow of the river, at the period when reservoir water is turned in, is there an area there which absorbs water or takes up water beyond the channel of the river in this rocky formation?

A Yes, if the river water plane was raised, why it raises the adjacent g round water plane adjacent to the river.

Q If the reservoir water is turned in and raisesthe water plane of the river, at first the reservoir water would percolate out or run directly out into this rocky film?

A Yes, part of it.

Q Have you made any observation as to whether or not in the early season when the reservoir water is turned in, it goes in its full quantity down to the dam, or ittakes a percentage to fill this channel?

A I haven't a detail measurement of that; we don't receive the full amount of water at the Wasatch dam we turn in at the reservoir, but above the Wasatch dam we have fifty diversions, not more than two or three, possibly four that have good gates in,and may lose some of it out that way. The increase would part of it go in these diversions.

Q Might go, you mean?

A Yes, might go, and undoubtedly a great quantity of it goes into the ground water plane at the sides of the river.

Q Have you made any observations as to the shutting off of the reservoirs which justify you in that conclusion?

A Oh certainly, many of them.

Q State what they are?

A We may be running is August 40 second feet out of the reservoir and out ten second feet at the reservoirs, and not feet it at the Wasatch dam, not get any diminution at the Wasatch dam at all.

Q And that is because of the return water which has gone into this rocky stratum at the time of the early turning in of the reservoir water, isn't it? A. Yes.

Q So that there would be a period during the time the reservoir gates were opened in the early part of it when the water was considerable less than that turned out and during the latter part of it there would be an inflow of these waters after the reservoir gates were closed?

A Yes.

Q The only loss which would be properly chargeable then to the reservoir water would be those waters which left the system during the entire period, would it not?

A Yes, above the Stewart randh where there is a ground water plane well defined.

Q That comes into the system?

A Yes.

Q Have you ever made any determination showing what the loss to the system of those waters if from the time of the turning in of the waters until they are finally returned through seepage in the later season? A. No.

Q Do you know of any having been made which are available?

A No.

Q Are those determinations which with proper gates in the diversions above the Wasatch dam could be made?

A Yes.

Q With some accuracy? A. Yes.

Q And keep records of it. The commissioner should determine reasonably what loss should be charged to those waters during the period, could he not?

A Yes.

Q You say that the water plane begins near the Stewart ranch?

A Yes, just below the Stewart ranch.

Q If a weir then were placed just at that point or above that point, and the measuring device of the plaintiff company at its reservoirs, those two weirs could become in the main the determining factor in that, could they not?

A Yes.

CROSS EXAMINATION By Mr. A. C. Hatch.

Q Now, do you mean to say that the reservoir water still continues to flow down the Provo river for a considerable period of time after it is shut off at the reservoirs?

A Yes, eventually the quantity is delivered, it may not be delivered beginning thirty-six hours after.

Q So that what they lose in the forepart of the season they get by return in a later part of the season when the water is at a lower stage.

A Yes.

Q So that eventually would you say there is no loss whatever to the users by reason of the turning of the reservoir water?

A Very little loss, if any, after you strike where there is a ground water plane, just below Stewart's.

Q What has been the custom as to the reservoir's use, to shut th-m off immediately upon the closing of their gates or within thirty-six hours after they close their gates at- the reservoirs, or were they allowed to continue the use of this reservoir water until it had all run out?

A It has been the practice to cut them off about the time after-- that we cut the water off at the res-ervoirs. That has been the practice, but that has been an erroneous practice by me.

Q The practice has been one which deprives the reservoir company of a right to the use of water in the lowest stage for a period of ten or twelve days, has it not?

MR. RAY: I object to that as an erroneous assumption, because it appears here they were given the reservoir water immediately when they were not entitled to it, the period has been improperly fixed, they have not been deprived of any water, they have been their quantity, but given it at a wrong time.

MR. A. C. HATCH: Then I understand counsel to say or to mean that our period, use for reservoir water should extend a considerable length of time after we close our reservoirs in order to make up if they take any from us when we first turn it in.

MR. RAY: I admit you should have all the water you turn in less the natural loss to the system, of course.

MR. MCDONALD: After the irrigation season is over.

MR. RAY: Much of it comes back after the irrigation season is over, I think the evidence will show.

Q The Timpanogos and Wasatch companies turn their water out first?

A Yes.

Q Fill up all these vracks and areas with their water, do they not?

A Yes, some of them.

Q So that the loss or gain by the Provo reservoir turning its quantity would be practically nothing, wouldn't it, the Timpanogos already having filled up the cracks and pores, there would be no loss occasioned by the Provo Reservoir Company, isn't that true?

A Well, that is partly true in a way. I don't consider any loss after we strike Stewart ranch. What we put into this system we eventually get out and if properly manipulated you will get it out during the irrigation season.

Q And not, as suggested by Mr. McDonald, long after the irrigation season has ended?

A No, if properly manipulated we can bring it through during the irrigation season.

REDIRECT EXAMINATION By Mr. Ray.

Q But in the past it has returned after the irrigation season was

over, some of it, hasn't it?

A Probably some of it that came after the irrigation season was over.

Q To the extent that the later water turned in by the Provo Reservoir Company heightened the water plane they would have a loss that would equal the other people, would they not, or comparatively so?

A Yes, they would be storing in that ground water plane.

REGROSS EXAMINATION BY Mr. A. C. Hatch

Q Do you have any idea about how long it would take to fill this ground water plane that is spoken of, so that the full flow as turned in from the reservoirs would reach the Wasatch dam?

A Well no, I suggest this to that answer. Suppose the Provo Reservoir wanted to draw 20 second feet of water at Provo. If I had the thing to do over again I would draw 40 second feet out of the reservoir to begin with or greater quantity than I wanted to divert here at provo, and then after the first of August when I begin cutting off at the reservoirs so I had 20 second feet drawing at the reservoirs I would give them 50 here. That is merely a transfer of acrefeet from one point of time to another point of time. It has been an error in manipulation more than anything else.

Q And there is eventually during the season practically no loss by transmission from the reservoirs to the points of use?

MR. RAY: I object to that question as having been asked and answered. He says above the Stewart ranch--below the Stewart ranch no, above the ranch yes, there are losses. He has answered that two or three times.

MR. A. C. HATCH: I didn't understand it.

A Below the Stewart ranch no, and above the Stewart ranch, I don't know what those losses are, but they could be determined by proper appliances.